An Analysis of Minor Hockey Officials and Perceived Organizational Support

Shawn M. Eckford, B.S.M. (Honours)

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Under the supervision of Dr. Julie Stevens

Faculty of Applied Health Sciences

Brock University

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Dedication

This research is dedicated to those officials, coaches, team managers, team trainers and parents who make minor hockey in Canada an institution. Your energy, dedication, and love for the game made a difference in my life and benefits thousands of children every day – even if they don't know it yet.

"I see with the grace of time how totally absurd the notion was that I would one day be signing programs and team jerseys thrust at me by adoring fans. But I smile at the small-town myth for the harmless, happy days it gave me and God knows how many thousands of others. Hockey, for many of us, was the first time – and often the only time – we felt we truly mattered".

Roy MacGregor
"A Game for Life"
Wayne Gretzky's ghost: And other tales from a lifetime in hockey.
Toronto, ON: Random House Canada

Abstract

Recent research suggests organizational factors should be considered in order to better understand the attrition of minor hockey. Consequently, the purpose of this quantitative study was to examine the extent to which minor hockey officials perceive organizational support (POS) from the minor hockey system, and to compare POS among minor hockey officials according to demographics. A total of 261 minor hockey officials were surveyed with the Survey of Perceived Organizational Support (SPOS). Results indicated significant differences according minor hockey official experience, certification level and extra-role performance. The findings are discussed in relation to POS and human resource management literature, and recommendations are made as to how administrators can better support these officials.

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Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Hockey is without a doubt one of the most significant pastimes in Canada, and the importance of hockey in Canadian culture is often articulated in literature (Robidoux, 2002; Whitson & Gruneau, 2006). Hockey has been described as "closer to religion than a simple sporting pastime" (Keating, 2010, para. 8). Clearly, the sport holds a prominent place in Canadian culture and current participation rates indicate that hockey remains a particularly significant part of Canadian life as over 600,000 citizens take part in the sport – a number that has increased by approximately 21% in the past 15 years (Hockey Canada, 2013a). This participation rate sets hockey as the most played winter sport for youth in Canada (Statistics Canada, 2005), while the most popular summer sport for youth is soccer with approximately 699,000 youth participants (Canadian Soccer Association, 2012). When one thinks of youth playing the "Canadian game," one often thinks of the relaxed, unstructured play known as "shinny" described by Blake (2010) as "nourish[ing] the most nostalgic descriptions of the national game… [shinny] is looked upon with utopian eyes as a space of pure bliss" (p. 56). This play is entrenched in Canadian history, as in 1810, Thomas Chandler Haliburton described children "hollerin' and whoopin' like mad with pleasure" while they chased an object with sticks on a frozen pond in Nova Scotia (as cited in MacGregor, 2011, p. 264).

In the centuries since Haliburton's description, hockey has become more regimented and structured as rules were created, teams formed, and associations assembled to administer the game. Ice time and equipment became expensive, and hours spent at the rink often grew longer and later (Blake, 2010). Vaz (1974) noted that when sports require increased investments of time, money and energy "the value of success, (i.e. victory), assumes pressing significance" (p. 33), resulting in an increased focus on

competition and winning. Dryden and MacGregor (1989) explained this same phenomenon in hockey as follows:

> Teams that had been practicing once a week and playing once or twice more gradually took to playing two or three times a week with more than the occasional weekend tournament…Sometimes one can love something too much. It can hold us in its thrall and make us do things we really shouldn't do (and likely will continue to, whether it changes or not). That is the power of this game. (p. 89)

A similar sentiment was expressed by Blake (2010) who noted "from now on there will be less emphasis on fun and games, and more on hockey" (p. 50).

Vaz (1974) demonstrated this intense focus on competition by showing that coaches in the younger levels of hockey prioritize instilling general qualities like "trying to win at all costs" (p. 40) while at the older ages the coaches prioritize "encouraging and perfecting the technical skills and strategies that are essential for winning games" (p. 42). Armentrout and Kamphor (2011) surveyed parents of minor hockey players who had discontinued their participation and found that four of the five top reasons for player attrition in minor hockey can be attributed to an overcompetitive system. Included in the four factors were a dislike of (a) the competition level, (b) the amount of time and travel,(c) , a dislike or inability to afford the amount of money needed, and (d) a dislike of the amount of the politics involved in the minor hockey system.

This intense myopia on competition is a regular experience in hockey arenas, as players, coaches and parents focus more on games and winning, and act out when these goals are not achieved. The problem of players, coaches and parents acting out was severe enough to necessitate creating programs like the "Relax, it's just a game"

campaign designed to combat the rising focus on excellence and to reinforce the focus on fun (Hockey Canada, 2003, 2004), and the "Respect in Hockey" program aimed at parents. The latter program was described by Jeffords (2014) as addressing "the behaviours people can exhibit when they get into the arena… from folks who are generally reasonable people outside of the rink" (para. 11). As mentioned above, if hockey is a game of tradition and "unspoken rituals," perhaps one of the most time-honoured and deeply held traditions by players, coaches and fans is that "when things go wrong… blame someone else" (Cribb & Kalchman, 2009, para. 27). This blame can come from any or all of these three stakeholder groups, but most often is directed at only one stakeholder group: on-ice officials.

Much of the blame for the overemphasis on competition, is given to officials, a forgotten stakeholder in the discussion (Trudel & Cote, 1996). Officials are a key component of any sport competition, as they represent the "third dimension of an athletic contest, with the players and coaches constituting the first and second respectively" however the connection between officials, players and coaches is often an "uneasy relationship" (Balch & Scott, 2007, p. 4). One reason why officials are a target for blame, aggression and abuse is because officials and participants tend to view each other as a source of aggravation (Dickson, 2002). While it is to a certain extent a fact of life, there is an abundance of anecdotal and statistical evidence indicating that within the current hockey dynamic, the focus on competition often explodes into the verbal and physical abuse of officials. Examples of anecdotal evidence of the physical abuse of ice hockey officials include an entire team of 16 and 17 year olds in Quebec attacking an official (Lessard, 2012), two parents in Hamilton, Ontario assaulting officials (Carter, 2013), a

parent allegedly assaulting a 17 year old official after a novice game in Port Perry, Ontario (Van Alphen, 2013), and a coach (who was later charged) threatening a 17 year old official (Arnold, 2002). More broadly, one could examine the 1100 major penalties assessed in the Greater Toronto Hockey League in the 2008-2009 season for varying levels of outbursts against officials, including 650 penalties for disputing officials' calls, 226 calls for "harassment of an official/unsportsmanlike conduct", 200 penalties for "verbal abuse" of an official, 12 cases of physical abuse of an official, and six investigations into "threatening an official" incidents (Cribb & Kalchman, 2009).

From a scholarly point of view, Ackery, Tator and Snider (2012) found that almost half of the officials they surveyed said that they have been the victim of physical violence from players (e.g. a cross-check to the head) or from fans (e.g. a sucker punch). Further, 59% of their participants listed specific examples including a parent breaking an official's finger, a fan threatening to "carve out a linesman`s eye," and a player head-butting an official (p.88). The same study reported that 92 percent of hockey officials felt they were targeted with verbal abuse, and 46 percent felt they were threatened with physical abuse – with players, coaches, parents and fans as the sources of that abuse. In addition, Dorsch and Paskevich (2007) found that officials perceive stress due to factors like verbal abuse by players, coaches and/or spectators, fear of physical harm, fear of appearing incompetent and fear of failure. Clearly, as both the anecdotal and scholarly evidence demonstrate, officiating minor hockey can be very stressful.

Officiating minor hockey has been described as a role where the official "could never be praised, only vilified… hockey is the fastest game on earth, so there are many things happening on the ice at all times, and only split seconds to make decisions"

(Moore, 2006, p. 154), making officiating hockey one of the most challenging roles in sport (Abraham, 2000, p.153). This challenge is exacerbated as officials receive verbal abuse that all too often spills into physical abuse (Abraham, 2000, p. 154). This harassment and stress is often suffered in return for pay of only between 20 and 35 dollars per game (Ottawa District Hockey Association, 2010). In addition, the pay does not include costs incurred as an official pays for his or her own equipment, certifications, and travel (Deacon, 2001). This stressful hockey climate for officials has contributed to an increased rate of attrition among minor hockey officials, commonly cited as an annual loss of approximately 30% to 33% of the approximately 33,000 officials registered under Hockey Canada (Balch & Scott, 2007; Deacon, 2001; Forbes, Betts, & Livingston, 2003).

This turnover leads to two challenges for Hockey Canada, the national governing body for the sport in Canada. The first is the significant difference between the supply and demand for qualified officials (Gray & Wilson, 2008). A shortage of officials would be a major problem as the sport would cease to exist without the officials, yet the current culture pushes them away, or worse, discourages the prospective referee from approaching the sport at all (Deacon, 2001). The second problematic result of the turnover is the financial cost to train new officials that enter the system, which is estimated at approximately $500,000 annually (Livingston & Forbes, 2007). The underlying problem seems to be one of treating a symptom rather than the disease. Hockey Canada and regional hockey bodies continue to replace officials who leave with new officials, rather than addressing the reason those officials left in the first place. Administrators within these organizations may not understand or see the problem at hand, or may choose to merely hire and train officials rather than address the attrition of minor

hockey officials and the resulting shortfall. Hockey Canada could mitigate the turnover rate by enhancing their support for these officials in order to increase officials' desire to stay in the role of official by making them feel more valuable to the organization. A more in-depth review and summary on sport officials, particularly minor hockey officials, is provided in the next chapter.

This support is called perceived organizational support (POS) and is defined as an employee's beliefs about the organization's care for their well-being and appreciates their contributions (Eisenberger, Huntington, Hutchison, & Sowa, 1986, p. 501; Fuller, Barnett, Hester, & Relyea, 2003, p. 789; Loi, Hang-yue, & Foley, 2006, p. 102). Stated differently, POS is an employee's "assurance that aid will be available from the organization when it is needed to carry out one's job effectively and to deal with stressful situations" (Rhoades & Eisenberger, 2002, p. 698). POS has been shown to be particularly important for employees in a stressful workplace (Viswesvaran, Sanchez, & Fisher, 1999) and fits into an organization's retention management strategy, defined by Yamamoto (2011) as "the entire human resources management policies for retaining the current or expected high-performing employees within organizations for long periods of time, enabling them to exercise or develop their capabilities" (p. 3550).

Positive perceptions of organizational support are linked to increased commitment, loyalty and performance (Rhoades & Eisenberger, 2002) and so POS can be a key determinant of an employee's intention to leave an organization as positive POS results in an intention to stay with an organization. Ng and Sorenson (2008) stated that the relationship between POS and turnover intention is a negative one in that high POS results in a low intention to leave, and vice versa. This relationship can be attributed to

the norm of reciprocity in which individuals will help those who have helped them, and not injure those who have helped them (Gouldner, 1960). In the context of organizational support, this norm is evident because as employees experience high levels of POS, they will reciprocate with a stronger attachment to their organization and have less intention to quit (Loi, Hang-yue, & Foley, 2006). Lambert, Hogan and Barton (2001) found that employees who are satisfied with their jobs (including satisfaction with the support they receive) are less likely to leave and Fuller et al. (2003) noted "because commitment can be an exchange commodity, people are likely to become committed to an organization that is committed to them" (p. 789). Allen, Shore and Griffeth (2003) also argued that POS and turnover intention are negatively related because "the employee's decision to continue to participate in the organization is based on the balance between the inducements offered by the organization and the contributions expected of the employee" (p. 103). Thus, an employee who perceives greater inducements like pay or support would be less likely to leave the organization. With this literature in mind, it is clear that linking POS to minor hockey officials could lead to a greater understanding of these officials and a greater understanding of how to satisfy officials in order to retain them.

Consequently, the purpose of this quantitative study was to examine the extent to which minor hockey officials perceive organizational support (POS) from the minor hockey system, and to compare POS among minor hockey officials according to demographics. From this examination, recommendations on how Hockey Canada and regional hockey bodies can better support these officials to increase the likelihood they will remain in the minor hockey system may be developed. The following chapter examines the existing literature on officials in hockey and other youth sports, and

examines the body of literature on perceived organizational support. The methodology by which data for this study were collected and analyzed is then described, followed by a description of the results and a discussion of these findings. Implications for future practice and future research are then discussed. This research expands the field of literature linking POS to sport officials, and can serve as a link between human resources management literature and sport literature.

Chapter 2: Review of Literature

Sport Officials Literature

Much of the previous literature on sport officials has concerned the officials at the individual level, especially their psychological responses to stress. This research primarily concerned the sources of their stress and the officials' responses and coping strategies to this stress (Anshel & Weinberg, 1995). Stress is not limited to hockey officials and therefore the literature will be first summarized according to the broad account of officials across many sports, then secondly according to specific references related to hockey officials. The pressures faced by sport officials in general during their work results in a significant amount of stress. This stress, described by Lazarus and Folkman (1984), is a product of the individual and the environment that occurs when the individual finds the environment "threatening, taxing or exceeding personal resources, and jeopardizes his/her well-being" (p.865). Many of these studies found that officials in various sports report only low to moderate feelings of stress from their role as a sport official (Anshel & Weinberg, 1995; Dorsch, McAuliffe, & Paskevich, 2000; Gilbert, Trudel, & Bloom, 1995; Goldsmith & Williams, 1992; Kaissidis & Anshel, 1993; Kaissidis-Rodafinos, Anshel, & Sideridis,1998; Rainey, 1994, 1995a, 1995b, 1999; Rainey & Hardy, 1997, 1999; Rainey & Winterich, 1995; Stewart & Ellery, 1996, 1998; Taylor & Daniel, 1988).

However, other research on sport officials' stress levels shows that sport officials do in fact find the profession stressful. It has been found that in addition to Canadian minor hockey officials (Dorsch & Paskevich, 2007), Spanish soccer referees (Alonso-Arbiol, Falco, Lopez, Ordaz, & Ramirez, 2005), Greek and Australian basketball referees

(Kaissidis-Rodafinos, Anshel, & Sideridis, 1998), and American football and volleyball officials (Goldsmith & Williams, 1992) all perceive significant levels of stress that arise from game action, players, coaches and the audience (Goldsmith & Williams, 1992, Fucini, 1979; Sawyer, 1981; Trudel & Cote, 1996; Zoller, 1985) like interpersonal conflict, fear of physical harm, and fear of failure (Anshel & Weinberg, 1995; Goldsmith & Williams, 1992) this is because in the role of sport official, one is often subjected to ridicule, scorn or abuse not present in any other profession. As noted by Smith (1982), "in most everyday life situations, no matter how angry or upset you get with someone, the mores of sociability require that you show some consideration… no such rules seem to apply to relationships with a referee" (p. 114). Research has also shown that in addition to psychological stress, minor hockey officials experience the additional physiological stress of skating and keeping up with the play (Trudel & Cote, 1996; Wilkins, Petersen, & Quinney (1991).

Goldsmith and Williams (1992) stated that officials in different sports share enough commonalities that officials perceive stress from the same sources and in the same magnitudes. This position is supported by the intersection of Dorsch and Paskevich's (2007) stressors for the minor hockey official with Alonso-Arbiol et al.'s (2005) stressors for Spanish soccer referees and Goldsmith and William's (1992) sources of stress for American football and volleyball officials. For a representation of the terms used for these stressors, see Table 1.

Moving from the broader field of literature on sport officials to minor hockey officials specifically, Bowker et al. (2009) found that spectators directed an average of five negative comments at hockey officials per game, while Wann, Schrader and Carlson

Table 1
Corresponding Stressor Types According to Dorsch & Paskevich (2007), Alonso-Arbiol et al. (2005) and Goldsmith & Williams (1992)

Dorsch & Paskevich (2007)	Alonso-Arbiol et al. (2005)	Goldsmith & Williams (1992)
Canadian minor hockey officials	Spanish soccer referees	Football and Volleyball officials in intramural programs in the U.S.
"[fear of] making a wrong call"	"Fear of failure or of making a mistake"	"pressure to always make the right call", "[pressure of] maintaining fairness"
"threats of physical abuse", "verbal abuse by coaches", "confrontation with players", "verbal abuse by spectators"	"interpersonal conflict with coaches and players"	"communicating decisions", "performing in a public setting", "keeping control of the contest"
"threats of physical abuse", "verbal abuse by coaches", "confrontation with players", "verbal abuse by spectators"	"fear of physical abuse and verbal abuse from players, coaches, and/or the public"	"communicating decisions", "performing in a public setting", "keeping control of the contest"

(2000) found that participants were more likely to direct aggression towards the officials than at the opposition. These two studies call attention to the stressful nature of officiating minor hockey and how much of the previous research has identified sport official stressors and recommended future research on their coping skills. Researching the coping skills of minor hockey officials has been problematic, as there is no consensus on the relationship between experience and stress for officials. Dorsch and Paskevich (2007) reported that Level I minor hockey officials (often the younger and/or newer officials) experienced lower feelings of stress. Meanwhile, Forbes and Livingston (2013) argued that officials with different levels of experience and certification experience different stressors. The authors found that inexperienced officials often leave officiating because of stress factors, while more experienced officials leave because of external factors like career or family needs. No matter the source or magnitude of the stress, many of the researchers recommend that officials develop newer or better strategies to cope with sources of stress that arise from officiating. While this is an important and sensible recommendation, very little research has examined the role of organizational support in addressing these sources of stress. This leads the current research to the first gap in the literature, which is research regarding the role of a sport organization in supporting its officials.

Sport organizations can play a role in combating the stress felt by officials and the attrition rate of those officials. One of the few studies addressing this idea was Gray and Wilson's (2005) study of organizational commitment, perceived relatedness and intentions to continue working for track and field officials in Canada. The authors found that officials felt little commitment to their National Sport Organization (NSO), and felt

more commitment to those closer to them at the Provincial Sport Organization, and especially to their fellow officials. The question left unasked by the study is "what do officials feel is an organization's duty to provide them with support, oversight and sufficient remuneration?" If one assumes that the stressors mentioned above are unchangeable, then the role of an organization in supporting officials becomes all the more important.

Forbes and Livingston (2013) argued that the constant attrition rates over time point to an underlying organizational problem and stated that in addition to stress caused by players, coaches and fans, minor hockey officials leave the position for reasons that are under the control of their organization. These reasons included inadequate compensation or having to wait for their pay, the lack of opportunity to advance through the officiating ranks, low quality training, little or no feedback and general unhappiness with local referee administration.

Given this, they proposed that studying the attrition of officials through the framework of perceived organizational support would be a positive first step to address the issue. This is why a more in-depth analysis of the connection between minor hockey officials and perceived organizational support is necessary, and is explored in the following section.

Perceived Organizational Support (POS)

The concept of POS was first described by Eisenberger et al. (1986) when examining employment as the exchange of effort and loyalty for material commodities like pay or social rewards such as esteem, approval or caring (Eisenberger et. al, 1986; Baran, Rhoades-Shanock, & Miller, 2012). Employees tend to assign humanlike

characteristics to their organization and perceive the actions of an organization's agents such as their supervisor (Rhoades & Eisenberger, 2002) as the actions of the organization as a whole. Thus, employees develop a perception of whether their organization values them and cares about them. If this perception is positive, an employee reciprocates with increased commitment, loyalty and performance (Rhoades & Eisenberger, 2002). In short, an employee often perceives that the employee and organization exist in a reciprocal relationship where skill and knowledge is exchanged for reward and support.

The idea of POS is grounded in social exchange theory, which states that when one person treats another well or behaves favourably, the treatment should be reciprocated, resulting in favourable outcomes for both parties (Gouldner, 1960). POS is also based upon organizational support theory, which states that employees develop beliefs concerning the extent to which their organization values their efforts, cares about their well-being, and would give help when needed to deal with a stressful situation or to perform a job effectively (Eisenberger et. al., 1986; Shore & Shore, 1995; George, Reed, Ballard, Colin, & Fielding, 1993). As explained by Randall, Cropanzano, Bormann and Birjulin (1999):

> …holding a job is analogous to making an investment. Workers provide their talents and motivation in hope of earning something in return. More generally, a workplace can be viewed as a sort of marketplace in which multiple individuals engage in myriad transactions, each seeking to obtain a favorable return on their investment. (p. 159)

In this marketplace, the individual trades attachment to her/his organization, a positive work attitude and/or increased effort and performance for the organization valuing them

as an employee, compensating them fairly, and looking after them when they are in need (Eisenberger et al., 1986; Randall et al., 1999, p.162).

This relationship often results in a strong sense of organizational identification and commitment for the employee because, as stated by Eisenberger et al. (1986), POS is an antecedent of organizational commitment. For a concrete example, Eisenberger, Fasolo and Davis-Lamastro (1990) used attendance as a measure of organizational commitment, and found that employees with low levels of perceived support had an absenteeism rate twice as high as employees with high levels of perceived organizational support. Therefore, it can be expected that the two are positively related in that increased organizational support results in greater levels of organizational commitment and vice versa.

As mentioned above, positive perceptions of organizational support affect the employees' intention to leave as a positive perception of POS results in an intention to stay with the organization, and vice versa (Ng & Sorenson, 2008; Loi, Hang-yue , & Foley, 2006; Lambert, Hogan , & Barton, 2001; Fuller et al., 2003; Allen, Shore, & Griffeth, 2003). With this in mind, it is clear that understanding the perceived organizational support of minor hockey officials may lead to a greater understanding of the attrition and retention of those officials.

The attention paid to POS has increased significantly in the past decade due to its relevance and utility (Baran, Rhoades-Shanock, & Miller, 2012) and has recently entered the sport context as it has been applied to professionals in sport organizations (Alijanpour, Dousti & Khodaryi, 2013; Ehsani, Sofdel, Amiri, Masrur, & Hossini, 2013; Pack, Jordan, Turner, 2007). To date, however, the concept of POS has been related to

minor hockey officials only once, when Forbes and Livingston (2013) compared the Survey of Perceived Organizational Support (SPOS) to qualitative data they collected in a previous study. The authors found that hockey officials were often dissatisfied with their opportunities to move up the ranks, rates and methods of compensation, the lack of supervision and mentorship provided, the failure to consider their input when making decisions, and the lack of appreciation for their efforts. The study by Forbes and Livingston (2013) justifies continued research on hockey official attrition through the lens of POS because these authors call for different approaches than those utilized in the past in order to further the understanding of officials and their perceptions of organizational support because. As Forbes and Livingston (2013) noted:

> …future studies utilizing this theoretical approach [POS] will yield valuable insights into how minor hockey associations will need to alter their day-to-day ways of doing business in order to retain their referees and linesmen. (p. 304)

Such an approach can be expanded by relating a hockey official's POS to characteristics of the officials themselves. In the past, demographic characteristics including age, education (measured in level of certification), sex, tenure as reflected by officiating experience, and their relationship with POS have rarely been an area of inquiry. These characteristics have typically been used as control variables to rule out alternative explanations for the relationship between hypothesized antecedents and POS (Rhoades & Eisenberger, 2002). These demographics and others will now be explored in further depth.

Tenure (Officiating Experience).

Rhoades and Eisenberger (2002) conducted a meta-analysis of 73 studies to determine that POS is primarily a result of three factors: fairness, supervisor support, and organizational rewards and job conditions such as pay, promotions, job enrichment or influence over organizational policies (p. 703). Rhoades and Eisenberger also reported that as a result of POS, employees display higher levels of organizational commitment, job-related affect, job involvement, performance, and desire to remain. POS also reduces the employee's strains and withdrawal behaviour. Of these, organizational commitment, job related affect, and desire to remain displayed the largest effect sizes.

Eisenberger et al. (1986) also argued that POS results in an affective bond to an organization and, as explained by Rhoades and Eisenberger (2002, employees who are dissatisfied with the organization may be more likely than others to quit; and that "longer tenured employees might thus have a more favorable view of various aspects of their treatment by the organization as well as high POS" (p. 701). Cropanzano, Howes, Grandey and Toth (1997) asserted that employees who perceive high levels of organizational support have been found to increase tenure, while Valle, Harris and Andrews (2004) found that when employees perceive low organizational support, less tenured employees search for employment elsewhere, while higher tenured employees have often developed an ability to tolerate the negative environment. Livingston and Forbes (2007) found that many ice hockey officials who had left the profession indicated dissatisfaction with the way their local hockey association handled officiating matters. With this consideration, it holds that officials who perceive positive organizational support from their organization will stay with the organization longer, and therefore the effect of POS on tenure was explored. Given this, the following hypothesis is proposed:

H_1: POS scores will differ between highly experienced officials and less experienced officials.

Age.

A conceptually different area of the current study concerns the relationship between POS and the age of hockey officials. There is no maximum age for minor hockey officials, but there is a minimum age, as officials must be at least 14 years of age to be certified as a Level I official (Hockey Canada, 2013b). An official must be 16 years of age to move to the next level of certification (Level II) and a minimum of 18 years of age in order to move to the following level of certification (Level III). As a result of this wide range of possible ages for officials, there are potential effects of age on an official's POS. It is possible that the high level of turnover amongst officials is a result of an aging population and aging officials see no reason to remain with their organization, which results in a labour shortage (Auer & Fortuny, 2000; Kinsella & Velkoff, 2001; Parker, 2006). Therefore age must be an area of inquiry in this study. In previous studies on POS, age was a control variable, and there was relatively few inquiries into the effect of age on POS (Armstrong-Stassen, & Ursel, 2009). It has been shown that organizations that offer high levels of POS (e.g., in the form of training and development) are more successful at retaining older employees than organizations that do not engage in those practices (Armstrong-Stassen, & Ursel, 2009). With this in mind, the following hypothesis is proposed:

H_2: POS scores will differ between younger and older officials.

Sex.

A third area of research into the POS of minor hockey officials explores the impact of sex. Of the approximately 33,000 officials in the Canadian minor hockey system (Balch & Scott, 2007; Deacon, 2001; Forbes, Betts, & Livingston, 2003, Hockey Canada, 2013c), only 1484 are female, or approximately 4.5% (Hockey Canada, 2013c). In a study of university-level athletic administrators, Pack (2005) stated that females and males experience POS similarly in terms of the antecedents and consequences of POS like affective commitment, growth opportunities, and turnover intention. Amason and Watkins Allen (1997) found no difference between sexes in terms of POS because the organizations they studied (one large university and two engineering firms) fit the "job model". This model treats "the work people do and the setting they do it in as the principle explanatory factors" (p.957) of organizational commitment and suggests the affective reaction to an organization by women and men was the same given equal conditions (p. 969). With the massive disparity of numbers between male and female hockey officials, it is possible this equal condition does not exist in the context of minor hockey in Canada, and thus, the effect of gender on POS must be explored.

Wessel and Ryan (2012) explored this phenomenon by exploring the job satisfaction of women and men in male-dominated work contexts, and found that women felt lower job satisfaction in a male-dominated environment but men who felt highly supported by the organization were unaffected by the perceived climate for women. It stands to reason that "if females perceive workplace gender discrimination, they may report lower perceived organizational support" (Amason & Watkins Allen, 1997, p. 956).

A second reason there may be a variance according to officials is the alternative to the "job model," called the "gender model". This model emphasizes personal

characteristics, gender role socialization, and linkages to family situations and suggests that "women will be more satisfied with their jobs and committed to their organization if their interactions with coworkers are supportive and cooperative [and] if they perceive they have an emotional bond with and are able to trust and communicate with their peers" (Amason & Watkins Allen, 1997, p. 973). This model also asserts that males and females have different psychological traits and different perceptions because of underlying values (Amason & Watkins Allen, 1997; Marsden, Kalleberg, & Cook, 1993) that influence females' "extensive social and affiliative interests" (Amason & Watkins Allen, 1997, p. 958), morality judgements (Gilligan, 1982) and intimate relationships (Rubin, 1983) which in turn could lead to differing levels of POS. Jawahar and Hemmasi (2006) made a similar argument when they found that women include the support for women's advancement in their definition of POS, and that a low perception of support relates to turnover intention. The evidence suggests that female hockey officials may feel lower POS compared to male officials. Nixon, Yang, Spector, and Zhang (2011) argue, however, that the opposite may be true, as "masculine roles emphasize characteristics such as independence and competence while feminine roles are characterized by warmth, compassion and support" and therefore "POS may run counter to [men's] socialized beliefs about masculinity" (p. 295). With these considerations in mind, the following hypothesis is proposed.

H_3: POS scores will differ between male and female officials.

Certification Level.

The relationship between POS and the certification level of an official was also explored in this study. Hockey Canada includes six certification levels for hockey

officials and the certifications are based on certification clinics that include lessons, examinations and supervisions (Hockey Canada, 2013b). Hockey Canada delivers these programs through branches that are often formed provincially (or in Ontario, regionally) that certify officials from level I to VI. Level I officials are usually able to officiate games of players up to ages 12 and 13, while Levels V and VI can usually officiate games at the major junior and international levels (Dorsch & Paskevich, 2007).

Ghani and Hussin (2009) called access to opportunities to learn and develop "professional development", and found that these opportunities are strong predictors of POS. The authors state that professional development enables the employee to "expand and suit his [or her] practices, [and] to reflect on his [or her] experience… [and] also increases [employees] understanding about their roles and determination to achieve the goals of the institution" (p. 124). Information sharing, meanwhile, is defined as "a mechanism that enables employees to be accounted for to achieve their goals and achieve the goals at a higher level [organizational goals]" (p. 123). In the context of minor hockey officials, professional development and information sharing only occurs during certification courses or supervisions of officials, which, as a predictor of POS, may affect an official's perceptions of support from their organization. For this reason, the following hypothesis is proposed:

> *H_4:* POS scores will differ between officials with higher certification levels and officials with lower certification levels.

Level of Involvement.

Another area of inquiry in the current study is the relationship between officials and level of involvement through extra-role performance. Extra-role performance is

defined as “activities that aid the organization but are not explicitly required of employees” (Chen, Eisenberger, Johnson, Sucharski, & Aselage, 2009, p. 120) and may include aid to fellow employees, offering constructive suggestions, creative suggestions for an organization’s operations or attempts to protect an organization from risk (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; George & Brief, 1992). In Canadian minor hockey, officials may take on these “extra-roles” as mentors to younger or less experienced officials, as supervisors overseeing and evaluating other officials, as game assignors, and even as a Referee-in-Chief for a league or minor association.

In their study, Chen et al. (2009) sought to find the direction of the relationship between POS and extra-role involvement. They found that high POS leads to increased extra-role performance in employees. Eisenberger, Fasolo and Davis-Lamastro (1990) also found that POS was positively related to extra-role performance in the form of employee innovation. This “innovation” was typically anonymous and voluntary, with the employee not seeking financial compensation or personal recognition for their effort. This relationship has also been examined and confirmed in a number of other studies (Eisenberger et al., 1990; Lynch, Eisenberger, & Armeli, 1999; Moorman, Blakely, & Niehoff, 1998; Shore & Wayne, 1993; Wayne, Shore, & Liden, 1997; Witt, 1991). In their meta-analysis of POS literature, Rhoades and Eisenberger (2002) echoed this idea, and stated that the relationship between POS and extra-role performance is stronger than the relationship between POS and the performance of the employee’s standard job tasks because employees may see extra-role performance as a “salient way to reciprocate organizational support” (p. 710) and thus may be bound by the norm of reciprocity to

reciprocate the favourable action of the organization (support) by responding in kind. Given this, the following hypothesis is proposed:

H_5: POS scores will differ between groups based upon the number of extra-roles performed.

Level of Activity.

Scholar have only recently begun to investigate the connection between POS and "non-traditional" work relationships like temporary, part-time and contract workers (Baran, Rhoades-Shanock & Miller, 2012). Past studies of POS have focused on circumstances with a more formal, ongoing, full-time employment situation between an individual and an employing organization. In the 21st century, however, organizations have begun to shift to short-term, part-time or contingent relationships with employees (Baran, Rhoades-Shanock & Miller, 2012) which reflect a relationship much closer to the system for minor hockey officials. The position of minor hockey official is more similar to a part-time employment position because it is often less than full-work week in terms of hours, the official is often given the option to officiate a game or not, and her/his pay is determined on a per-game basis rather than a regular salary. The major implication of part-time work in terms of POS is that employees are potentially able to work for more than one organization at a time, thus forming multiple sources of POS. The increased ability of employees to move between organizations makes evaluating an employee's POS more difficult as employees only work for a short time within an organization (Baran, Rhoades-Shanock & Miller, 2012).

Gakovic and Tetrick (2003) hypothesized that part-time employees may only be partially included in their organization, as they may receive fewer benefits, opportunities

for promotion, training and communication. Therefore, they hypothesized, part-time employees feel less POS while full-time employees would perceive higher levels of organizational support because full time employees are more likely to receive treatment implying organizational investment, and to have a long-term perspective. Gakovic and Tetrick (2003), however, found that part-time employees reported higher levels of POS, contrary to their hypothesis. The authors believed that this may be because employees' value the flexibility of part-time work. Alternatively, the authors state that full-time employees reported higher levels of sacrifice, thus lowering their reported POS. With these considerations in mind, the following hypothesis is proposed:

H_6: POS will differ between highly active officials and less active officials.

Organizational Affiliation.

In order to identify where officials look for organizational support, the officials must have a clear idea of which organization they belong to. However, due to the multiple potential sources of organizational support available to a minor hockey official like her/his local hockey association, regional hockey body or Hockey Canada, organizational affiliation was an area of inquiry in this study. In the only other study of POS on minor hockey officials (Forbes and Livingston, 2013) the question of organizational affiliation was not examined as the researchers carried out a secondary analysis of data, and did not have the option of exploring this question. The current study allowed officials to state who they believe should provide them with organizational support in order to make inferences that relate POS to an official's choice of organization.

In this research, officials were able to specify the organization they felt affiliated to, and that they perceived was the provider of their organizational support. Since POS is

a result of three factors, including supervisor support, fairness and organizational rewards such as pay, promotions, job enrichment or influence over organizational policies (Rhoades & Eisenberger, 2002), it stands to reason that an official with greater access to her/his supervisor and influence over organizational policies would have higher POS. Since it would be more reasonable to have greater access and influence in a local association than a regional or national body, it was hypothesized that officials identifying a local association would perceive greater organizational support than an official who identified a regional or national body as their organization of affiliation.

H_7: POS will differ between groups based upon their identified organizational affiliation.

The method by which tenure, age, sex, certification level, level of involvement, level of activity and organizational affiliation demographics were examined is described in further detail in the following chapter.

Chapter 3: Methodology

In order to quantitatively examine the extent to which officials perceive organizational support from the minor hockey system and those who work or volunteer within the system, a process of data collection and data analysis was completed. This chapter outlines the procedures used to investigate the POS of minor hockey officials and their POS according to their characteristics. This chapter is presented in five sections including (a) the sample and sampling strategy for the current research; (b) the participants recruited by the sampling strategy; (c) instrumentation of the current study, including a description of the Survey of Perceived Organizational Support (SPOS); (d) a review of the reliability and validity of the SPOS; and (e) the procedures of data collection and analysis.

Instrumentation

This study examined minor hockey official attrition through an understanding of perceived organizational support. To this end, a survey research design was used because this approach allows a researcher to gather "quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population" (Creswell, 2009, p.145). It has also been shown that self-report measures are the most appropriate method of data-collection for personally experienced phenomena similar to POS (Crampton & Wagner, 1994; Schalm & Kelloway, 2001; Veitch & Cooper-Thomas, 2009). A survey research design was chosen for two reasons. The first reason relates to the ease of data collection as Neuman (2000) explained that "the researcher [can ask] many people numerous questions in a short time period… [and] surveys give the researcher a picture of what many people think or report doing" (p. 34).

The second reason for choosing Survey of Perceived Organizational Support (SPOS) survey was because it reliably measures the phenomenon being examined in this study. The SPOS was developed by Eisenberger, Huntington, Hutchison and Sowa (1986). The authors proposed a 36-item survey to measure the POS of employees, but also developed an appropriate shorter survey consisting of the highest loading items. The shorter version of the SPOS consists of 16 statements that reflect organizational support of an employee and the organizations expected reaction to an action taken by the employee.

The short version of the SPOS was chosen for this study for convenience to participants and because of the limited time available to collect data during the official certification clinics. The statements are ranked on a 7-point Likert scale by the respondents (0 = strongly disagree, 6 = strongly agree). Of the 16 items on the short version SPOS, Eisenberger et al. (1986) worded nine items positively and seven negatively in order to control for an agreement response bias, and negatively worded items were reverse scored. Worley, Fuqua and Hellman (2009) showed that the 16-item short version of the SPOS could "efficiently and efficaciously" (p.5) replace the 36 item version because the correlation between the POS factor score and POS total score when comparing the two versions was $r = .97$. Some statements on the SPOS were appropriate and relevant to hockey officials (for example, "[Organization] would ignore a complaint from me"), while others were modified to fit the minor hockey official context (for example, "If [Organization] earned a greater profit, it would consider increasing my salary" was modified to "[Organization would consider giving me extra reward for good performance.") The SPOS provides the current study with a solid foundation of inquiry.

For the purposes of examining the POS of different demographic groups of minor hockey officials, demographic items were added to the SPOS. The demographic questions correspond to the demographic variables outlined in the previous chapter. The factors are supported by POS literature and demonstrate relevance within the minor hockey officiating context. See Appendix A for the demographic questionnaire and the SPOS instrument.

Reliability and Validity of the SPOS.

In the first use of the SPOS, Eisenberger et al. (1986) found that in the three studies completed, the SPOS displayed a high degree of internal consistency (measure of reliability) with Cronbach's alphas of .97, .93 and .80, respectively (p. 503). Subsequent studies have replicated this high degree of internal consistency in both the original 36 item survey and shorter versions including Armeli, Eisenberger, Fasolo and Lynch (1998), Eisenberger, Armeli, Rexwinkel, Lynch and Rhoades (2001), Eisenberger et al. (2002), Eisenberger, Fasolo and Davis-Lamastro (1990), Lynch, Eisenberger and Armeli (1999), Shore and Tetrick (1991) and Shore and Wayne (1993). Worley, Fuqua and Hellman (2009) conducted reliability analyses on the shorter versions of the SPOS and found that the 16 item version resulted in a Cronbach's alpha of .95, again indicating very high internal consistency and good reliability.

The shorter versions of the SPOS used in research has used the highest loading items, and therefore a high degree of unidimensionality, a measure of validity. In addition to the unidimensionality of the SPOS, Shore and Tetrick (1991) studied the construct validity of the SPOS and the short version of the SPOS and found that the SPOS is "empirically distinct, as well as conceptually distinct, from affective and continuance

commitment" (p. 640) and therefore both possess a high level of validity. This finding that the two concepts are distinct indicates that employees can differentiate between their commitment levels to their organization and their organization's commitment to them. Hutchison (1997) provided further evidence for the construct validity of the SPOS, and stated that "in addition to being empirically distinct from its consequence (i.e. affective commitment) [POS] is empirically distinct from other conceptually and related measures (i.e. perceived supervisory support and organizational dependability)" (p. 1032). With this information in mind, "POS is a distinctive construct that the SPOS measures with high reliability" (Rhoades & Eisenberger, 2002, p. 699) and therefore the SPOS proves a valid and reliable tool for this study.

Sample and Sampling Strategy

Hockey Canada reports that there are approximately 33,000 officials registered every year (Balch & Scott, 2007; Deacon, 2001; Forbes, Betts, & Livingston, 2003). In the 2012-2013 season, Hockey Canada had 33,288 registered officials (Hockey Canada, 2013c); therefore the target population of the study was approximately 33,288. Of the target population, the study population included the 10,892 officials in Ontario (Hockey Canada, 2013c), the province where research was conducted. As part of the research, however, this population had to be reduced down to a sample, defined by Pedhazur and Pedhazur-Schmelkin (1991) as "a subset of elements from the population selected" (p. 319). Neuman (2003) asserted that for moderately sized populations (10,000 to 150,000) a sampling ratio of about 10 percent is appropriate. Under Neuman's sampling ratio, 3329 surveys would have been the target sample size. However accessing a large enough sample of potential participants to yield this number of surveys was unrealistic.

Therefore, a number of other studies that have used the SPOS tool were considered to determine a more realistic sample size.

A review of 14 previous studies that utilized a research instrument similar to the tool used in this study indicated a range from a minimum of 80 participants (Randall et. al., 1999) to a maximum of 640 participants (Eder & Eisenberger, 2008) with a mean of approximately 300 participants (Chen et. al., 2009; Eisenberger et.al., 2001; Eisenberger, Cummings, Armeli, & Lynch, 1997; Eisenberger, Fasolo, & Davis-Lamastro, 1990; Eisenberger et. al., 1986; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Ladd & Henry, 2000; Rhoades, Eisenberger, & Armeli, 2001; Rhoades-Shanock & Eisenberger, 2006; Stinglhamber & Vandenberghe, 2003; Van Knippenberg & Sleebos, 2006). Therefore the target sample size for this study was 300 participants, or approximately 1% of the total population.

A non-probability sampling technique was used, as the officials were surveyed at annual mandatory certification clinics (Hockey Canada, 2013b). The researcher gained access to officiating clinics offered by one regional hockey body, and therefore the clinics were chosen according to a convenience sampling strategy. Participants were recruited from fourteen different annual mandatory certification clinics. The clinics were held between late September 2013 and late October 2013. The certification clinics were selected according to their convenience to the researcher; therefore the participants were part of a convenience sampling strategy. This strategy was chosen because it was less prohibitive to the researcher in terms of financial cost and time investment (Skowronek & Duerr, 2009). Another reason it was chosen was because it addressed the difficulty in creating an opportunity to interact with officials which arises because an official's contact

information, for example, e-mail addresses or phone numbers are not publicly or easily accessible. Therefore, as Creswell (2003) noted, the fact that "the investigator must use naturally formed groups" (p. 164) to access participants necessitated selecting a convenience sample of clinics in which to recruit these participants.

Participants.

Participants were minor hockey officials who have at least one year of officiating experience and attended officiating clinics administered by a regional hockey body between late September 2013 and late October 2013 in Ontario, Canada. This requirement was included in order to guarantee that each participant had at least some experience officiating within an organization.

Procedures

Ethical Considerations.

Prior to beginning this study, procedures and methodologies were approved by the Brock University Research Ethics Board. All participants in this studied were advised that their participation was voluntary, and that they may decline participating, and that they may withdraw from the study at any time. Additionally, they were informed their identity would remain anonymous unless they indicated otherwise. This information was conveyed in an "informed consent form" seen in Appendix C.

Data Collection.

After ethics approval from Brock University's Research Ethics Board was obtained, permission was sought from regional hockey bodies in Ontario to gather data at their certification clinics. Permission to access potential participants during official certification clinics was granted by a Director in the regional hockey body. Participants

were approached at the hockey official certification clinics that they are required to attend annually. The officials were addressed as a group by the researcher by reading aloud a semi-structured script at the clinic that described the purpose and goals of the research (See Appendix B). Participants were given the option to decline participation, complete the survey in person or provide an email to which a survey could be sent. 267 of the 269 returned surveys were completed in person (99.2%) which were collected individually by the researcher and separated from the Informed Consent form to protect anonymity. The remaining two surveys were emailed to the researcher by participants. Allowing participants to choose their method of participation gave them the most convenient method of involvement for them. Mass e-mail of the online survey was not a viable approach for two reasons; first, an official's e-mail address is not available online; and second, an in-person request to email a survey may result in a higher rate of response than simply e-mailing the survey (Chesney, 2006). There was no time limit for completion of the demographic questionnaire and SPOS. Information about the total attendance at each clinic is not available from the regional hockey body and consequently, it is not possible to calculate an overall response rate.

Data Analysis.

The data were analyzed using SPSS v. 21.0 after participants were grouped according to their place in the various demographic categories described in Table 2. These groups were created in order to complete the *t*-test or ANOVA analyses described below. Wherever possible, officials were split into groups according to predetermined characteristics like sex or certification level. Where predetermined characteristics were not present (i.e. continuous data like age or experience) officials were split into upper

Table 2
Grouping Strategy and Group Size According to Demographics

Demographic	Grouping Strategy	Group	Frequency	Percentage of Participants
Tenure	Tertiary Split (Lowest Third vs. Highest Third)	Lowest Third (<= 4 seasons)	109	42.2%
		Highest Third (>= 8 seasons)	98	37.9%
Age	Tertiary Split (Lowest Third vs. Highest Third)	Lowest Third (<= 18 years old)	86	34.1%
		Highest Third (>= 30 years old)	85	33.7%
Sex	Answer provided by Participant	Male	251	96.5%
		Female	9	3.5%
Certification Level	Answer provided by Participant	Levels I & II	145	55.6%
		Levels III, IV, V, VI	116	44.4%
Extra-Role Involvement	Answer provided by Participant	0 Extra-roles	104	39.8%
		1 Extra-role	75	28.7%
		2+ Extra-roles	82	31.4%
Activity Level	Tertiary Split	Lowest Third (<= 96 games/season)	104	40.1%

	(Lowest Third vs. Highest Third)	Highest Third (>= 146 games/season)	86	33.2%
Organizational Affiliation	Answer Provided by Participant	Local Hockey Association	112	50.5%
		Local Hockey League	16	7.2%
		Regional Hockey Body	49	22.1%
		Hockey Canada	23	10.4%
		Other	22	9.9%

thirds and lower thirds. Splitting these groups into thirds was chosen in order to balance the hazards of median splits described by MacCallum, Zhang, Preacher & Rucker (2002) with the loss of data that would result from quartile splits. H_1 was examined by comparing officials within the lowest third of years of experience with officials within the highest third of years of experience. H_2 was examined by comparing officials in the youngest third of participants with officials in the oldest third. H_3 was not analyzed due to the vast disparity between the number of male and female participants. H_4 was examined by comparing officials with certification levels I and II, and officials with certification levels III, IV, V, and VI. These groups were chosen because these certification levels are different in the practical sense, as Hockey Canada describes the levels I and II as a developmental certification, and meant to respectively prepare a young or new official and to enhance the training and skills of minor hockey officials. Meanwhile, the higher certifications are described as performance certifications and prepare officials to perform in games ranging from minor hockey playoffs to national championships and International Ice Hockey Federation (IIHF) competition (Hockey Canada, 2013b). These groups were statistically different as independent *t*-test analyses indicated significant differences between these groups for age ($M_{LowerCert}$ = 21.72, $M_{HigherCert}$ = 36.10, p <.001), experience ($M_{LowerCert}$ = 2.74, $M_{HigherCert}$ = 8.52, p < .001), number of extra-roles performed ($M_{LowerCert}$ = .53, $M_{HigherCert}$ = 1.82, p < .001) and level of activity ($M_{LowerCert}$ = 84.21, $M_{HigherCert}$ = 136.10, p < p.001). H_5 was examined by comparing officials who serve or have served no extra-roles, one extra-role and multiple extra-roles. These extra-roles included mentoring, supervisory duties, evaluating other officials, scheduling officials and/or serving as a Referee-In-Chief. H_6 compared officials within the lowest.

third of activity with officials in the highest third of activity. H_7 compared officials according to their organizational affiliation to a hockey body. See Table 3 for more information For the dependent variable, participants were scored according to their mean POS score. These mean POS scores were then compared according to the demographic criteria listed above. Of the 16 items on the SPOS questionnaire, six had no missing data, while ten were missing some responses. However, for items missing responses, a minimum of 98.5% of answers were valid, leaving only a maximum of 1.5% of missing data for any of the items. Therefore, the extent of the missing data was acceptably low, and since no specific non-random patterns were identified, missing values were replaced by imputing the mean of responses for that item, which, as discussed by Hair, Black, Babin and Anderson (2010) is a valid strategy in the circumstances.

H_1 (tenure) was analyzed using a *t*-test to compare the low and high tenured groups of officials in terms of their mean POS scores. H_2 (age), H_4 (certification level) and H_6 (activity level) were also analyzed using an independent means *t*-test. The independent *t*-test is used to calculate the variance between means when there are two groups with different conditions and/or different participants (Field, 2009), and thus would fit the analysis of these categories. H_5 (number of roles) and H_7 (organizational affiliation) were analyzed using a one-way ANOVA on the mean POS scores. A one-way ANOVA analysis is used when there are three or more groups with different conditions and/or different participants (Field, 2009). The ANOVA was chosen over conducting a number of *t*-tests because an ANOVA reduces the experimental error that a number of *t*-tests would produce (Field, 2009). After conducting the ANOVA procedure, Bonferroni post-hoc analyses were conducted where appropriate in order to identify specific

Table 3
Frequency and Percentage of Valid Participant Response Rates by Demographic Variable

Demographic Item	Valid Responses (Included in Analysis)	Invalid Responses (Not Included in Analysis)	Valid Response Rate
Experience	258	3	98.9%
Age	252	9	96.6%
Sex	260	1	99.6%
Certification Level	261	0	100%
Extra-Role Performance	261	0	100%
Level of Activity	258	3	98.9%
Organizational Affiliation	222	39	85%

differences between these groups. H_3 (sex) was not analyzed due to the vast disparity between the number of male and female participants.

Of the 269 surveys returned, a total of 261 surveys were deemed valid for a completion rate of 97%. This response rate is relatively good, as the average response rate for questionnaires used as the basis for published research is often significantly less than 100% (Baruch & Holtom, 2008). Previous publications have suggested 50% response rate as the minimal level (Roth & Bevier, 1998), 60% (Fowler, 1984) and 80% (De Vaus, 1986). For a table of valid responses by participants according to the demographic, see Table 3.

The eight invalid surveys were deemed invalid because the participants had unacceptably high missing data, determined to be missing four items or more. Therefore the sample size of this study is n=261. On the remaining surveys, participants had missed no more than two items, and no item of the sixteen was missed more than 1.5% of the time. The extent of the missing data was therefore deemed to be acceptably low and there were no specific non-random patterns. For any missing data, the series mean of the item was imputed.

Chapter 4: Results and Discussion

The purpose of this quantitative study was to examine the extent to which minor hockey officials perceive organizational support (POS) from the minor hockey system, and to compare POS among minor hockey officials according to demographics. The sample consisted of minor hockey officials who had served at least one year as an official. The current study had seven hypotheses.

For the purposes of analysis, the sample of participants was divided into the groupings described in Chapter 3. In instances where the independent grouping variables were nominal in nature, *t*-test or ANOVA procedures were used to test for between group differences depending on the appropriateness of the test. In instances where the independent grouping variables were continuous in nature, the lowest third and the highest third groupings were compared via *t*-test (the middle third was not considered in the analysis).

Minor Hockey Officials' POS

Among the 261 valid surveys from participants, the mean POS score across all responses was 4.13, with a median and mode of 4.18, and standard deviation of .93. For this and other POS scores, please see Table 4. The mean score of 4.13 on the 7-item Likert scale (0 to 6) indicated that, as a group, officials in this study slightly agreed with the positively worded statements in the survey, and slightly disagreed with the negatively worded statements. The mean score was comparable and slightly higher than reported mean POS scores in other professions that were cited in previous research (see Appendix E for the reported scores from these studies). With these mean scores considered, it appears that the minor hockey officials included in this study perceived comparable, or even higher, levels of organizational support to that of employees in other industries or

Table 4
Mean, Minimum and Maximum POS Scores According to Hypothesis

Minor Hockey Officials' POS		Mean POS Score	Standard Deviation	Minimum POS Score	Maximum POS Score
	Overall	M = 4.13	SD = .93	0.00	6.00
Hypothesis	Grouping				
H1	Less Experienced Officials	M = 4.29	SD = .73	2.75	6.00
	More Experienced Officials	M = 3.97	SD = 1.10	.63	6.00
H2	Younger Officials	M = 4.31	SD = .68	2.31	6.00
	Older Officials	M = 4.06	SD = 1.10	.63	6.00
H3	Males	M = 4.14	SD = .91	1.69	6.00
	Females	M = 4.04	SD = 1.45	.63	5.63
H4	Lower Certified Officials	M = 4.24	SD = .76	2.00	6.00
	Higher Certified Officials	M = 3.99	SD = 1.07	.63	6.00
H5	0 extra-roles	M = 4.32	SD = .79	2.00	6.00
	1 extra-role	M = 3.94	SD = .96	1.94	6.00
	2+ extra-roles	M = 4.06	SD = 1.02	.63	6.00
H6	Low Level of Activity Officials	M = 4.17	SD = .89	2.00	6.00
	High Level of Activity Officials	M = 4.11	SD = .89	.63	6.00
H7	Local Hockey Association	M = 4.18	SD = .95	1.75	6.00
	Local Hockey League	M = 3.92	SD = .72	2.80	4.88
	Regional Hockey Body	M = 3.87	SD = 1.08	.63	6.00
	Hockey Canada	M = 4.13	SD = .79	2.94	6.00
	Other	M = 4.47	SD = .77	2.75	5.56

situations. However, within the hockey officiating system, there are certain groups who do not perceive the same levels of support from their organization as others. These groups included in the demographic analyses are discussed below.

Assumptions

The purpose was to examine the extent to which minor hockey officials perceive organizational support (POS) from the minor hockey system, and to compare POS among minor hockey officials according to demographics. This examination included hypotheses that involved statistical tests of difference, specifically *t*-tests and ANOVA. For a restatement of these hypotheses, please see Table 5. Within the independent samples *t*-test and ANOVA there are some inherent assumptions made that, if violated, can affect the data gathered for analysis. These assumptions are typically referred to as "equal group sizes", which is evident by the same or similar sizes of groupings, "independence of observations", which means that the behaviour of one participant does not affect the behaviour of another and that participants cannot be part of both groups under comparison (Field, 2009), "univariate normal distribution", defined by Field (2009) as "a probability distribution of a random variable that is known to have certain properties. It is perfectly symmetrical (has a skew of 0) and has a kurtosis of 0" (p. 790) and "homogeneity of variance" defined by Field (2009) as "the assumption that the variance of one variable is stable (i.e. relatively similar) at all levels of another variable." (p. 787). Of these assumptions, the first two are part of the research design, meaning that they require analysis of data across the entire research design, while the latter two are statistical in nature and thus require analysis within the groupings of participants. Where

Table 5
Summary of Hypotheses

H_1	POS scores will differ between highly experienced officials and less experienced officials.
H_2	POS scores will differ between younger and older officials.
H_3	POS scores will differ between males and female officials.
H_4	POS scores will differ between officials with higher certification levels and officials with lower certification levels.
H_5	POS scores will differ between groups based upon the number of extra-roles performed.
H_6	POS will differ between highly active officials and less active officials.
H_7	POS will differ between groups based upon their identified organizational affiliation.

the assumption of homogeneity of variance was violated, the proper SPSS output *p*-value was interpreted. Table 6 provides a summary of these assumptions. See Appendix D for a representation for all data.

Support for Hypotheses and Discussion of Findings

Tenure.

H_1: POS scores will differ between highly experienced officials and less experienced officials.

H_1 was supported. Officials with less than four years of officiating experience (the lowest third of participants) indicated significantly lower POS scores than officials with more than eight years of experience (the highest third of participants). A *t*-test analysis indicated that there was a significant difference between the mean POS scores reported by these two participants groups ($t(165.33) = 2.45$, $p = 0.02$). See Table 7 and Table 8 for a description of this and other data analyses.

As hypothesized, there was a significant difference in the POS level between officials within the lowest third of participants in terms of experience and officials in the highest third. Specifically, in contrast to previous research regarding tenure, the less experienced participants reported higher levels of POS compared to the more experienced officials. This finding opposes much of the previous research that has explored the relationship between tenure and POS in other organizations and work settings. The result is also contrary to social exchange theory because the more experienced officials continue to officiate despite lacking the organizational support they feel they deserve and in so doing, are acting favourably despite not receiving constructive treatment. This finding also

Table 6
Valid and Invalid Assumptions According to Hypothesis

Hypothesis	Equal Group Sizes	Independence of Observations	Univariate Normal Distribution		Homogeneity of Variance
H1	☑	☑	Lowest Third of Experience	☑	X
			Highest Third of Experience	☑	
H2	☑	☑	Lowest Third of Age	☑	X
			Highest Third of Age	☑	
H3	No analysis completed, as equal group sizes assumption violated				
H4	☑	☑	Lower Certification Levels	☑	X
			Higher Certification Levels	☑	
H5	☑	☑	0 Extra-Roles	☑	☑
			1 Extra-Role	☑	
			2+ Extra-Roles	☑	
H6	☑	☑	Lowest Third of Activity	☑	☑
			Highest Third of Activity	☑	
H7	☑	☑	Local Hockey Association	☑	☑
			Local Hockey League	☑	
			Regional Hockey Body	☑	
			Hockey Canada	☑	

	Other	☑

(☑ indicates that the assumption was met, x indicates that the assumption was violated).

Table 7
Summary of t-test Results and Significance

Hypothesis	Groupings	Mean POS Score	Standard Deviation	*t*-test Result	Significant Difference
H_1	Less Experienced Officials	M = 4.29	SD = .73	(*t*(165.33) = 2.45, *p* = 0.02).	Yes
	More Experienced Officials	M = 3.97	SD = 1.10		
H_2	Younger Officials	M = 4.31	SD = .68	(*t*(139.46) = 1.82, *p* = 0.07).	No
	Older Officials	M = 4.06	SD = 1.10		
H_3	Males	M = 4.14	SD = .91	No analysis completed	
	Females	M = 4.04	SD = 1.45		
H_4	Lower Certified Officials	M = 4.24	SD = .76	(*t*(205.13) = 2.17, *p* = 0.03).	Yes
	Higher Certified Officials	M = 3.99	SD = 1.07		
H_6	Low Level of Activity Officials	M = 4.17	SD = .89	*t*(188) = .49, *p* = 0.63).	No
	High Level of Activity Officials	M = 4.11	SD = .89		
	Local Hockey League	M = 3.92	SD = .72		
	Regional Hockey Body	M = 3.87	SD = 1.08		
	Hockey Canada	M = 4.13	SD = .79		
	Other	M = 4.47	SD = .77		

Table 8

Summary of ANOVA Results and Significance

Hypothesis	Groupings	Mean POS Score	Standard Deviation	ANOVA Result	Significant Difference
H_5	0 extra-roles	M = 4.32	SD = .79	($F(2, 258) = 4.14$, $p = 0.02$).	Yes
	1 extra-role	M = 3.94	SD = .96		
	2+ extra-roles	M = 4.06	SD = 1.02		
H_7	Local Hockey Association	M = 4.18	SD = .95	$F(4, 217) = 1.96$, $p = 0.10$.	No
	Local Hockey League	M = 3.92	SD = .72		
	Regional Hockey Body	M = 3.87	SD = 1.08		
	Hockey Canada	M = 4.13	SD = .79		
	Other	M = 4.47	SD = .77		

challenges the belief of Rhoades and Eisenberger (2002) that longer tenured employees would display higher POS.

Less experienced officials may feel higher POS than more experienced officials because the less experienced officials are more often the recipients of training and developmental opportunities, while more experienced and higher certified officials are either (a) not engaged in these activities or, (b) are responsible for delivering them. This makes sense because as discussed by Rhoades and Eisenberger (2002), POS is a result of supervisor support. This also echoes the finding of Rhoades-Shanock and Eisenberger (2002) who believed that POS would "trickle down" (p. 693) from the organization to the subordinate via the supervisor. In this case the "supervisor" (i.e. the more experienced official) provides support to the "subordinate" or the less experienced official. However, in the case of minor hockey officials, the supervisors perceive less organizational support than the subordinates, which may indicate that the difference in POS is related to the responsibilities of the supervisor to provide training and development opportunities to the subordinate. Walker and Gutteridge (1979) argued that employee development is often an extra burden that managers are not prepared or equipped to handle (as cited by Tansky & Cohen, 2001) and with this in mind, it may be that the extra burden of training and developing less experienced officials negatively impacts the POS of more experienced officials.

An alternative explanation for the lower POS of more experienced officials may be a lack of meaningful or more advanced training opportunities for these highly experienced minor hockey officials. In the same study, it was also argued that officials require more continued training rather than one-time training, and that officials desire

more support, understanding and consideration from administrators (Warner, Tingle & Kellett, 2013, p. 322). This can be considered a "training failure" (Bunch, 2007) that has arisen because of the "competition" culture of the minor hockey system. Bunch (2007) defines culture as "typically includ[ing] concepts such as shared beliefs, values and assumptions" (p. 146). Within the culture of competition previously described in Chapter 1, it is clear that training and development are not a high priority for minor hockey administrators in terms of their beliefs or values. This low priority is evident in the Hockey Canada 2013 Annual Report where eight pages contain an image of a team with a gold medal or trophy while only one page mentions officials with a table of registration numbers (Hockey Canada, 2013c). Strategies to improve the support and training of more experienced officials are explored further in the next chapter.

Age.

H_2: POS scores will differ between younger and older officials.

H_2 was not supported. The difference in POS scores between younger officials (18 years old or younger) was not statistically significant from the POS scores of older officials (30 years or older), ($t(139.46) = 1.817$, $p = 0.07$).

Contrary to hypothesis two, there was no significant difference between POS levels of young officials and older officials. In their meta-analysis of 73 studies, Rhoades and Eisenberger (2002) discussed how age has often been used as a control variable in studies of POS to rule out bivariate relationships statistically. However, there have been relatively few inquiries into the effect of age on POS (Armstrong-Stassen & Ursel, 2009). Literature on older workers suggests that flexible work options are a high priority for these employees (Armstrong-Stassen & Ursel, 2009), and perhaps these older officials do

not feel support due to the rigidity of scheduling their games and certification clinics (Forbes & Livingston, 2013). These officials, like many employees in other work circumstances, would much rather be able to adjust their hours to suit their lifestyles (Golden, 2001). This desire for more flexible work hours could be the result of sociological reasons or economic reasons (Siegenthaler & Brenner, 2000) as conceptually, older officials are more likely to have families and officiate for a second income. The rigidity of scheduling could also negatively impact older officials' POS as Warner, Tingle and Kellett (2013) cited that decisions regarding scheduling were often not based on merit, but other factors that individual officials could not control such as favoritism, politics and familiarity (p.323).

An alternative for this finding may be that younger officials may not feel they are part of a refereeing community. Warner, Tingle and Kellett (2013) showed that belonging in a community could positively affect POS, but that officiating can result in "cliques" of officials (p. 322). The authors included a statement from one participant that "A lot of times I felt like it was the community of officials who'd been around forever… and none of us knew what they were talking about" (p.322). With this evidence in mind, it may also be a combination of these two possibilities that result in no difference in POS between older and younger officials.

Most importantly for the current study, this non-significant result shows that while the age of an official does not affect the perceived organizational support of that official, the experience of an official does affect POS. Therefore, the experience of an official is not necessarily a function of the age of that official, and therefore the

significant finding on the relationship between POS and an official's experience is an independent result.

Sex.

H_3: POS scores will differ between males and female officials.

H_3 was not analyzed due to an insufficient number of female officials for analysis, which resulted in a vast disparity between the number of male officials (n = 251) and female officials (n = 9), while one participant did not indicate their sex on the questionnaire. The mean POS score for males (M = 4.14, SD = .91) was higher than the POS score for females (M = 4.04, SD = 1.45). However, the violation of the assumption of equal group sizes precluded statistical analysis. The sample was roughly representative of the population, as Hockey Canada (2013c) reported that only 3.5% of officials were female (i.e., males = 31,804, females -= 1,474) while in this study, 3.4% of officials were female. The disparity between the number of male officials and female officials was comparable to previous studies on minor hockey officials. For example, Dorsch and Paskevich (2007) surveyed 421 minor hockey officials, of whom only 13 (or 3.1%) were female.

. **Certification Level.**

H_4: POS scores will differ between officials with higher certification levels and officials with lower certification levels.

H_4 was supported. There was a significant difference between officials with certification levels I and II (n = 145) and officials with certification levels III, IV, V or VI (n = 116). Officials with lower certifications reported a mean POS score of 4.24 with a standard deviation of .0.79 while officials with higher certifications reported a mean POS

score of 3.99 with a standard deviation of 1.07. A t-test analysis indicated a significant difference in mean POS score ($t(205.13) = 2.17$, $p = 0.03$).

This supports the findings of Ghani and Hussin (2009) who found that access to opportunities to learn and develop, as well as information sharing are strong predictors of POS. Information sharing and opportunities to learn and develop amongst the minor hockey officiating ranks focus target officials at the low-level certifications. Additionally, officials with higher certifications are often tasked with supplying opportunities for developing officials to learn in the form of mentoring, facilitating clinics, and other extra-role performance.

Like the significant difference between less experienced and more experienced officials, one reason why this disparity in POS may exist is that training and development opportunities tend to not only focus on short tenure officials but also lower certified officials. These officials are often one and the same, as lower certified officials also tend to be newer to the role, and this is discussed later in this chapter. In addition, officials who are longer tenured and more highly certified officials are asked to serve the extra-roles that deliver these opportunities. The result is lower POS among highly certified officials because the opportunities may not exist for this group of minor hockey officials whose extra-roles may focus more upon the delivery of opportunities to other minor hockey officials. This claim is corroborated by the data, as *t*-tests indicated that there was a significant difference ($p < .001$) in the extra-role performance of less experienced officials ($M = .32$, $SD = .57$) and the extra-role performance of more experience officials ($M = 1.71$, $SD = 1.20$), and a significant difference ($p < .001$) between the extra-role performance of less certified officials ($M = .53$, $SD = .73$) and high-level certified

officials (M = 1.82, SD = 1.27). The reasoning for the difference in officials' POS between levels of certification may also be related to the logistics of learning and development opportunities. In a mentorship, for example, it is most commonly a more certified official mentoring a less certified official, for example, in the training clinics, a veteran official (the clinic instructor) facilitates a group of low-level certified or less experienced officials. A minor hockey official must be supervised by a Hockey Canada Officiating Program supervisor, who would be required to be more highly certified than the official being evaluated. While not all highly certified officials serve these extra-roles (discussed further in the next section) it is required that less certified officials receive training, evaluation or supervision from more certified officials.

The current study echoes the findings of Tansky and Cohen (2001), as highly certified officials do indeed perceive lower levels of organizational support because of the lack of training and development opportunities targeted at them. The implications of this finding are discussed in the following chapter.

Level of Involvement.

H_5: POS scores will differ between groups based upon the number of extra-roles performed.

H_5 was supported. A one-way analysis of variance (ANOVA) indicated a significant difference of POS scores between officials who serve or have served no extra-roles (n = 104), one extra-role (n = 75) or multiple extra-roles (n = 82). These roles included mentoring, supervising, scheduling and/or assigning and serving as a Referee-In-Chief. One-way ANOVA analysis indicated a significant difference between groups ($F(2, 258) = 4.14$, $p = 0.02$). Bonferroni post-hoc analysis revealed a significant

difference between officials who serve or have served no extra-roles (M = 4.32) and officials who serve or have served one extra-role (M = 3.94), p = 0.02. All other post-hoc comparisons revealed non-significant differences between groups.

This finding challenges the findings of Chen et al. (2009), as well as Eisenberger, Fasolo and Davis-Lamastro (1990), who found that POS was positively related to extra-role performance, as higher levels of POS result in increased extra-role involvement. This finding also contradicts a number of studies that reported a positive relationship between POS and extra-role performance (Eisenberger et al., 1990; Lynch, Eisenberger, & Armeli, 1999; Moorman, Blakely, & Niehoff, 1998; Shore & Wayne, 1993; Wayne, Shore, & Liden, 1997; Witt, 1991). This would seem to indicate that for minor hockey officials, serving extra-roles actually tends to affect POS negatively, whether they serve as a mentor, supervisor, scheduler/assignor or referee-in-chief. This may be because officials who perform no extra-roles receive benefits in the form of training and development at no cost, while officials who perform extra-roles are essentially expected to deliver these opportunities with little to no benefit, because while in some cases officials receive compensation, they are more often volunteer positions. If this were the case, it would also oppose social exchange theory, as the officials are performing these extra-roles despite not receiving favourable treatment in the form of POS in return. Another possibility may be that officials feel these extra-roles are required of them, rather than being an opportunity to volunteer of their own free will. Little to no research connecting POS to extra-roles exists within the literature; however one key point within this body of work is that extra-roles only involve voluntary, not paid activities.

Level of Activity.

H_6: POS will differ between highly active officials and less active officials.

H_6 was not supported. There was no significant difference in the reported mean POS scores for low level of activity officials (n = 104) and the reported mean POS scores for high level of activity officials (n = 86). A *t*-test analysis indicated no significant difference ($t(188) = .486$, $p = 0.63$).

This contradicts the finding by Gakovic and Tetrick (2003) who found that "part-time" employees (i.e. low-activity officials) perceive greater organizational support than "full-time" employees (high-activity officials) do. This contradiction could potentially exist because Gakovic and Tetrick studied more traditional employment positions, where formal definitions of "full-time" and "part-time" employees are understood in the workplace. In the context of the current study, low level of activity officials were considered officials in the lowest third of participants in terms of the number of games per season, while high level of activity officials were those who were in the highest third. In the minor hockey context, officials are assigned games, but these games often take place in the evenings or weekend and these hours enable individuals to utilize hockey officiating to gain a second income (Saskatoon Minor Hockey Association, 2013). In this way, hockey officiating does not fit the more formal definitions of full-time and part-time work. In the current study, the non-significant difference between low activity officials and high activity officials may indicate because officials as a group feel that they in fact are all "part time" employees. The finding also seems to challenge the findings of Rhoades and Eisenberger (2002), Randall et al., (1999) and Eisenberger, Fasolo and Davis-Lamastro (1990) who found that individuals with higher perceptions of organizational support would respond with increased levels of job performance.

Organizational Affiliation.

H_7: POS will differ between groups based upon their identified organizational affiliation

H_7 was not supported. A one-way ANOVA indicated no significant difference on reported mean POS score according to the organization identified by the official, ($F(4, 217) = 1.96$, $p = 0.10$). There were no post-hoc analyses conducted because no significant difference was detected.

There was no significant difference in the reported POS levels of officials according to their organizational affiliation. However, most officials identified that they felt affiliated to support sources closer to them, for example, their local hockey association (n = 112), Referee-In-Chief or local referee's association (n = 22). This result supports the idea reported in several studies that predictors of organizational affiliation often include "(a) the extent of contact between the individual and the organization [and] (b the visibility of organizational membership" (Wiesenfeld, Raghuram & Garud, 2001, p. 215).

Most officials indicated that they felt affiliated with a local association despite being surveyed during certification clinics that were administered by regional hockey branch officials and were in some cases even held in the regional hockey branch offices (49 officials indicated Regional Hockey Branch as their source of support). Additionally, the training materials given out at the fourteen clinics were provided by Hockey Canada (23 officials indicated Hockey Canada as their source of support). This finding challenges the beliefs of Dutton et al. (1994) and Pratt (1998) that organizational affiliation is impacted by "artifacts and symbols (e.g. signs and logos over doorways and on coffee

mugs, architecture, dress) as well as rituals and ceremonies (e.g. orientation programs, recognition ceremonies, customs" (as cited by Wiesenfeld, Raghuram & Garud, 2001, 215). This finding also reiterates the limitation of Forbes and Livingston's (2013) study where it was assumed that all officials felt that their local hockey association was responsible for providing their organizational support.

More officials indicated that they perceive their support comes from local hockey bodies than regional or national hockey bodies. As asserted by Eisenberger et al. (1986) and echoed by Rousseau (1998) this support from a local body can take on the significance of a personal relationship and can create a feeling of high involvement. It has been shown that organizations and individuals are distinct sources of perceived support (Stinglhamber & Vandenberghe, 2003) and that individuals can make the distinction between the two (Howes, Cropanzano, Grandey, & Mohler, 2000; Ladd & Henry, 2000). Due to the smaller nature of local associations, it could be argued that the officials have made the distinction between the individuals of the local association versus the institution of regional or national bodies and perceive their support from the more personal connections of a local body. This finding could inform the findings of Gray and Wilson (2005) who found that track and field officials felt more commitment to their fellow officials than their NSO. With this in mind, it could be that the officials in their study perceived greater support from their personal connections rather than their regional hockey body or NSO (Hockey Canada). This could be influenced by the nature of officials who are beginning in the role, as newer officials often officiates lower level games at the local level and therefore may feel stronger affiliated with the local association and/or other local officials.

However, the lack of a consensus among participants in terms of their organizational affiliation for perceived organizational support is a clear and present problem for the minor hockey administration. Equipped with a clear organizational affiliation and sense of belonging in an organization, employees will reflect better congruence with the organization (Ashforth & Mael, 1989) and perceive higher levels of POS. The sample of participants seems to indicate that among local associations, local leagues, regional hockey bodies, and Hockey Canada, it is not clear to which organization an official affiliates to the most. This problem is discussed in depth in the following implications and recommendations chapter.

Supplementary Correlation Analysis.

After data were collected, an analysis of correlation was conducted to examine the relationship between experience, age and certification level. To analyze the relationship between age and experience, a correlation analysis to find Pearson's correlation coefficient was used, as they are continuous variables. Spearman's correlation coefficient was used to analyze the relationships between certification level and experience, and certification level and age, as certification level is a nominal variable and was not normally distributed. The analysis of Pearson's correlation coefficient for the relationship between age and experience indicated a strong positive relationship between the two ($r = .65$) and was significant at $p < .001$. The analysis of Spearman's correlation coefficient showed strong positive relationships between certification level and age ($r = .71$) and certification level and experience ($r = .79$), both at $p < .001$. These results show that the relationship between certification level, age and experience are strong, significant and

positive. This means that as any one of these variables increases, the others tend to increase as well.

Chapter 5: Implications, Limitations, and Conclusion

There are a number of practical implications from the findings in the current study, and implications for future research. In the following section, the practical implications of the findings described above will be discussed, as will be recommendations to improve the experiences of the officials. Implications for the future research of officials in minor hockey and future research regarding POS will then be discussed.

Implications for Future Practice

Improved Support for More Experienced and More Certified Officials.

Less experienced officials perceive greater levels of POS than more experienced officials. Likewise, less certified officials perceive greater levels of POS than more certified officials. In addition, officials who serve no extra-roles feel greater levels of POS than officials who perform extra-roles. For this reason, and because experience level and certification level are conceptually similar, it is a recommendation of this research that the minor hockey administration institute a more formal mentorship initiative for more experienced and more certified officials. This is because, as mentioned previously, the nature of a mentorship lends itself to the development of novice officials more than veteran officials due to the relative scarcity of officials in the upper certification levels and with the most experience.

In the 2012-2013 season, Hockey Canada reported that there were 21,116 Level I or II officials who could potentially be mentored by any of the 6,112 officials in the levels above them. However, the 5,785 officials in Levels III or IV could only potentially be mentored by a total of 327 Level V or VI officials (Hockey Canada, 2013c) although given the right circumstance such as increased interaction through “e-mentoring”, this

scarcity does not preclude veteran officials from a mentorship situation. If veteran officials were introduced to a system of e-mentoring, defined by Bierema and Merriam (2002) as "a computer mediated… relationship between a mentor and a protégé" with an official with a higher certification, officials would be provided with an opportunity to learn, gather advice, receive encouragement and gain access to a role model. E-mentoring would also address geographic concerns (Thompson, Jeffries, & Topping, 2010) that arise because of the scarcity of highly-qualified officials. For a graphic representation of the limited numbers of highly certified officials throughout the country, see Table 9. E-mentoring would also allow officials in an underserved regional hockey body to access a mentor from any regional hockey branch in Canada. This e-mentoring could be used through channels such as e-mail, social networks like Facebook or Youtube, and communication media like Skype. In addition to an e-mentoring system, the minor hockey administration may consider encouraging and reinforcing social or peer support for officials in an effort to have officials receive support from each other, and the sum of their knowledge and experiences, as this would address the scarcity of highly qualified officials by encouraging support within the same certification level rather than between levels. Peer support is described as "the provision of caring, tangible aid, and information… [the] provision of comfort and expression of support and reassurance to colleagues in distressing circumstances in a highly paced and demanding work environment" (Rousseau & Aube, 2010, p. 322-323). It has been shown that peer support can be more influential than supervisor support in increasing perceptions of organizational support (Chiaburu, Van Dam, & Hutchins, 2010). It is therefore a recommendation of this research that the minor hockey administration institute a more

Table 9
Regional Scarcity of Level V & VI Officials (Hockey Canada, 2013c)

Regional Hockey Branch	Number of Level V & Level VI Certified Officials (n)
BC Hockey	30
Hockey Alberta	16
Saskatchewan Hockey Association	32
Hockey Manitoba	14
Hockey Northwestern Ontario	10
Hockey Eastern Ontario	16
Ontario Hockey Federation	148
Hockey Quebec	16
Hockey New Brunswick	Not Disclosed
Hockey Nova Scotia	11
Hockey P.E.I.	12
Hockey Newfoundland and Labrador	12
Hockey North	0

formal system to initiate and encourage social support within the officiating ranks in order to encourage officials, particularly more experienced and more highly certified officials, in order to improve the rate of retention of officials (Harris, Winskowski, & Engdahl, 2007; Rousseau & Aube, 2010).

Clarify the Hierarchy of Organizational Support for Officials.

The relatively high POS scores of officials should provide assurance that officials are receiving the support they desire. However, the disparity between indicated organizations, especially the higher identification with local organizations, may indicate that Hockey Canada's and regional hockey bodies' efforts to provide organizational support to officials may not be effective, and thus a clarification of the structure is necessary.

Given this finding, combined with the finding that novice officials perceive greater organizational support than veteran officials, it is a recommendation of the current research that Hockey Canada adopt and clarify the nature of a top-down network of support with a "workgroup"–like arrangement. In this arrangement, Hockey Canada would provide organizational support to the subsequent level of "workgroups", specifically regional hockey bodies possibly in the form of capital or human resources. These bodies would provide support to the subsequent workgroups, specifically officials with higher certifications within the region through improved training, increased pay, or other support mechanisms thus enhance their perceptions of organizational support. The officials with higher certifications would then provide organizational support to officials with less certification within their respective local associations. This action plan would provide officials with a clear hierarchy of support, presumably improve the POS of officials with higher certifications, and also capitalize on the pre-existing POS that

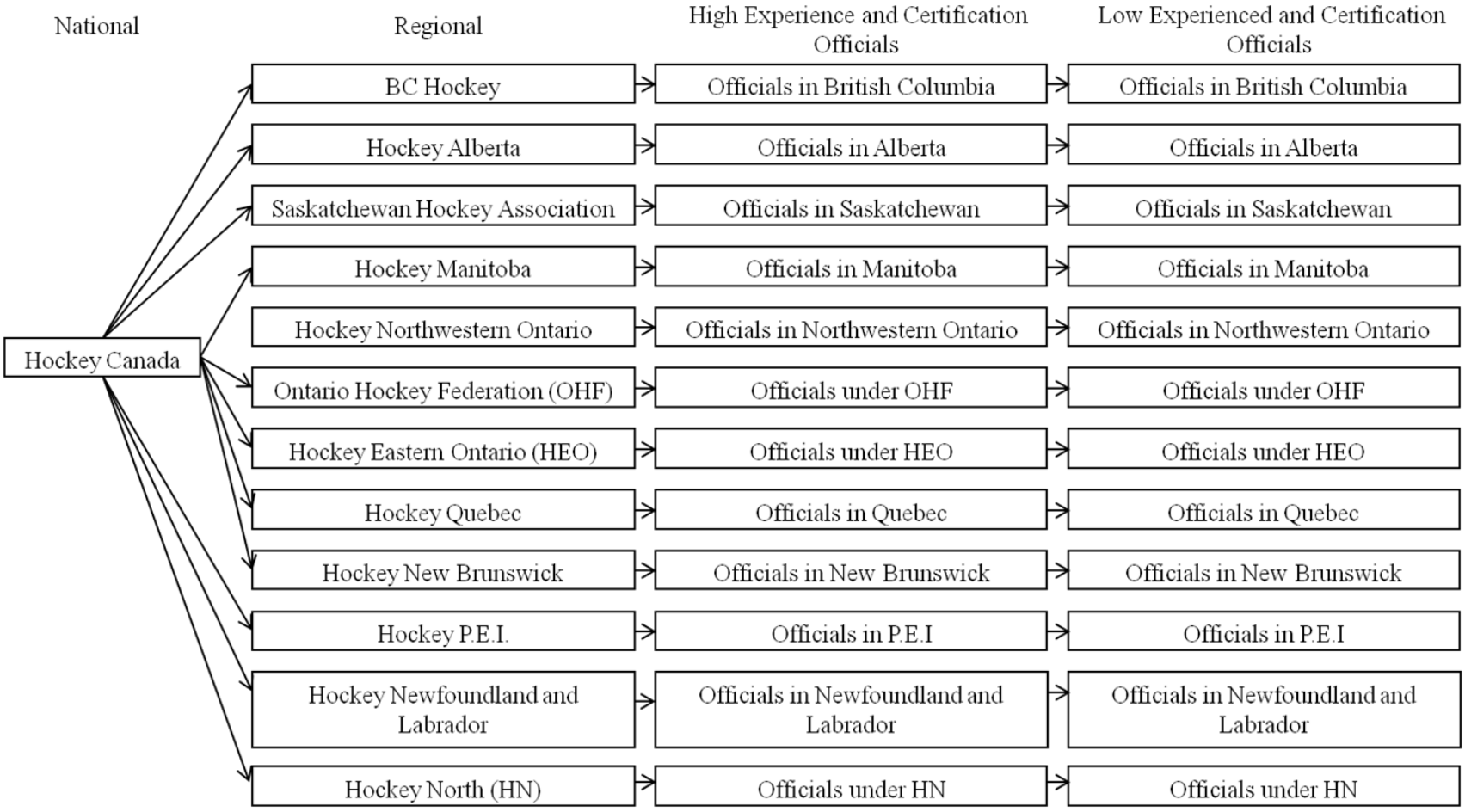
officials perceive from their association (rather than attempting to change the officials' perceptions entirely). On the other hand, a support hierarchy may already be set in place through minor hockey associations, regions and branches, in which case all that is needed is a better communication strategy to ensure minor hockey officials are aware of the support that is available to them.

This recommendation is made because an emphasis on providing support to supervisors can result in increased perceptions of support from both the supervisor and subordinates. Therefore organizations should strive to cultivate positive perceptions of support in supervisors (Rhoades-Shanock & Eisenberger, 2006) because this would lead to positive outcomes for employees and the organization (Rhoades & Eisenberger, 2002). Additionally, increased support of a workgroup by the organization results in improved team performance, and improved support of an individual by a workgroup results in increased commitment, satisfaction and reduced turnover intention (Howes et al., 2000) For a proposed "workgroup" hierarchy, please see Figure 1.

Implications for Future Research

There is a paucity of research linking POS and minor hockey officials. Aside from Forbes and Livingston's (2013) examination of minor hockey officials' attrition and retention, no other research has focused upon this phenomenon in minor hockey. For this reason, more research should be completed in an effort to understand POS amongst minor hockey officials, and with officials in other sports. The current study may serve as a pilot study for more in-depth research of officials and POS by using the survey that was adapted for minor hockey officials, and applying it to a greater number of officials, officials under other regional bodies, or officials' demographic characteristics. For

Figure 1
Proposed "Workgroup" Hierarchy



example, a national survey of female minor ice hockey officials, one which would yield a substantially sized sample upon which more reliable conclusions may be drawn, is warranted. Additionally, this study may serve as the basis for a qualitative investigation of official's POS.

Additionally, the focus of this research was based upon one variable (POS), and how this factor may vary between demographic groups. On one hand, this may be considered a limited exploration of POS, however this research also represents a solid introduction for this field. Future research may include additional variables including perceived supervisor support or perceived peer support.

The current study also linked various demographics such as age, sex, and experience with POS, a practice that should be undertaken in greater depth in order to understand their effects on the employee and the employee's perceived organizational support. This study also introduces a new type of employee with unique characteristics, such as alternative employment statuses and irregular work hours, and circumstances such as a highly stressful environment) to the discussion of POS, and future literature should include these findings in their consideration of the types of employees that experience organizational support. Most importantly, in future studies, researchers should seek additional information above and beyond a single measure of POS to understand POS in a sporting context. In this study, a greater depth of understanding may have been achieved by gathering additional data to help explain the mean scores from the SPOS. One or two open ended qualitative questions seeking input from the participants on their experiences would have added to the interpretation.

Limitations

Limitations for the current research arose as part of the scope of the research, including a lack of financial resources to expand the research, the time bound nature of the research, and the lack of access to the researcher. A greater pool of financial resources could have allowed expanding the research by attending a greater number of clinics to survey officials, or increasing the geographic scope of the clinics that were attended. The time bound nature of the research allowed the researcher only one season in which to complete data collection, while a longer time frame with multiple seasons of data collection could have provided an opportunity to complete a repeated measures design. Finally, the lack of access to clinics for the researcher allowed data to be collected within the clinics of only one regional hockey body, while two other regional hockey bodies denied the researcher access because of time concerns or various other reasons.

There were also some limitations due to of the nature of the research, including access to only those who still officiate in the minor hockey system, a scarcity of prior research on the topic of POS in the unique contexts of minor hockey officiating and sport in general, and some potential confusion from participants within the survey and the nature of self-reported data.

The difficulty of accessing officials who left the system resulted in a selection bias of officials who remained in the system. Selection bias typically occurs due to the structure of the research, when a non-random selection of cases results in inferences that are not necessarily representative of the data (King, Keohane,, & Verba, 1995). In this research, inferences made about the attrition of officials are limited because of an inability to access officials who have already left the sport, resulting in surveying officials who are still in the profession. This bias is best described as a form of “healthy

worker" bias where the variable in question can affect the status of the employee. In the example given by Hernan, Hernandez-Diaz and Robins (2004), research into the impact of a chemical on employee health where only current employees went through a physical has been exposed to "healthy worker" bias (because employees who may have died because of exposure to the chemical have been excluded from the sample). In this study, current officials were surveyed rather than officials who may have left the profession because of a low perception of organizational support. Finally, the non-response bias of those officials who started a survey but did not complete it and/or those officials who declined to participate resulted in a non-response bias. This is a limitation on the inferences this research can make regarding the attrition of minor hockey officials.

One of the major differences between this research and that of Forbes and Livingston (2013) was that officials were active officials, and thus could identify the organization they thought should be providing them with organizational support. In the case of Forbes and Livingston (2013), individuals had left officiating and therefore no longer had an organizational affiliation. These researchers, as mentioned above, applied the POS to pre-existing data of officials who had left the position, and were not able to specify organizational affiliation of the official. The current research allowed active officials to identify their organization, but could have been a source of confusion for some officials when completing the survey. The question read "Which organization/person do you feel is responsible for providing support to you as a hockey official?" followed by, in bold type, "Please choose ONLY the most appropriate answer and see the note on the next page". Despite this, 39 of the 261 officials had to be

excluded from the analysis of H_7 because they gave invalid answers, most often because they indicated more than one organization or person.

Another possible limitation on the current study was the nature of self- reported data. While it has been shown that self-report measures are the most appropriate method of data collection for personally experienced phenomena like POS (Veitch & Cooper-Thomas, 2009; Crampton & Wagner, 1994; Schalm & Kelloway, 2001), some researchers are skeptical about results that come from questionnaires that ask people to report about themselves and their jobs. This is because of "the often prejudiced and unthoughtful charge that method variance or monomethod bias has produced the observed correlations rather than the constructs" (Spector, 1994; Donaldson & Grant-Vallone, 2002). While there is reason to be cautious when generalizing the findings that come of self-report questionnaires, reasons for caution are every bit as significant when using other methodologies (Spector, 1994). Therefore, one recommendation to address this limitation could be a similar study to that of Forbes and Livingston (2013) in which a mixed method approach of collecting quantitative and qualitative data is undertaken. This effort would be a worthwhile strategy to rule out any potential monomethod bias (Donaldson & Grant-Vallone, 2002).

A final limitation of the research was that data was collected in training clinics, and so could have resulted in inflated POS scores, as the officials could see the clinic as a form of organizational support. However, this was an inherent risk in the data collection method, required because officials had to be approached as a group. This is discussed in the methodology section.

The inability of quantitative research to investigate and explain phenomena in further depth is a limitation inherent in the methodology of this research. A qualitative investigation of the POS of minor hockey officials can result in "a profound, deep understanding… [and] discover deeper richer meanings" (Neuman, 2011, p.101).With this in mind, it is recommended that future research into POS and minor hockey officials expand upon this quantitative study and the Forbes and Livingston (2013) study by including qualitative research into the methodology in order to better understand the connection between POS and the retention or attrition of minor hockey officials.

Conclusion

Forbes and Livingston's (2013) investigation of the retention and attrition of minor hockey officials encouraged a rethinking of the phenomenon through the application of perceived organizational support. The authors stated that POS provided a "meaningful framework upon which to begin developing an understanding of the role … organizations and their practices play in valuing officials and thereby contributing to the retention and attrition of these individuals from the officiating ranks" (p. 303-304). The authors suggested that future studies should strive to use POS in order to gain insight to how minor hockey associations can change their operations in order to retain officials.

The current study sought to understand the extent to which officials perceive support from the minor hockey system and examine POS levels according to demographic groups(for example, league and association administrators). The results suggest that there is a need for greater organizational support for veteran officials from the minor hockey administration system in order to address the lower perceptions of organizational support indicated by that group. Finally, the minor hockey administration

should strive to define the organizational support programs that do exist, and create a clear network of support in the minor hockey system.

This study extends the academic dialogue on POS and employees in any workplace. The findings also contribute to practice, because as recommended by Forbes and Livingston (2013), this study makes recommendations for the minor hockey administration to "alter their day-to-day ways of doing business in order to retain their referees and linesmen" (p. 304). These findings provide important implications for sport organizations in various sports and/or other individuals involved in sport like coaches.

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Appendix A – Survey of Perceived Organizational Support for Minor Hockey Officials

POS Survey for Minor Hockey Officials

1. What is your date of birth?

2. What is your gender? M ☐ F ☐

3. How many seasons have you been officiating minor hockey? ☐

4. What is the highest level of officiating certification you have received? (Please circle your selection.)

Level 1	Level II	Level III	Level IV	Level V	Level VI

5. Please check all roles that you currently serve or have served in the past. Indicate all that apply by checking the box(es) that corresponds with your choice(s).

Role(s)	I serve/have served this role.
Mentorship of younger/less experienced official(s)	
Supervisions/evaluations of other official(s)	
Scheduling of Official(s)/ Assigning Official(s) to games.	
Serving as Referee-in-Chief	

6. How many games do you officiate on average, per week? ☐

What is the length of your season in months? ☐

7. Which organization/person do you feel is responsible for providing support to you as a hockey official? **Please choose ONLY the most appropriate answer, and see the note on the next page.**

Organization/Person	Please check the box that corresponds with your choice.
Local Minor Hockey Association	
Local Hockey League	
Regional Hockey Branch (Ontario Hockey Federation, Ontario Minor Hockey Association, Hockey Eastern Ontario, etc.)	
Hockey Canada	

Other (Please specify)	

Listed below and on the next page are statements that represent possible opinions that YOU may have about working at/with/under the organization/person indicated in your answer to question 7 (This organization/person is represented by the "_____" in each statement.

Please indicate the degree of your agreement or disagreement with each statement by circling the number that best represents your point of view on each question. Please choose from the following answers:

0	1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree

1. _____ values my contribution to its well-being.

0	1	2	3	4	5	6

2. If _____ could hire someone to replace me at a lower salary it would do so.

0	1	2	3	4	5	6

3. _____ fails to appreciate any extra effort from me.

0	1	2	3	4	5	6

4. _____ strongly considers my goals and values.

0	1	2	3	4	5	6

5. _____ would ignore any complaint from me.

0	1	2	3	4	5	6

6. _____ disregards my best interests when it makes decisions that affect me.

0	1	2	3	4	5	6

7. Help is available from _____ when I have a problem.

0	1	2	3	4	5	6

8. _____ really cares about my well-being.

0	1	2	3	4	5	6

9. Even if I did the best job possible, _____ would fail to notice.

0	1	2	3	4	5	6

10. _____ is willing to help me when I need a special favor.

0	1	2	3	4	5	6

11. _____ cares about my general satisfaction at work.

0	1	2	3	4	5	6

12. If given the opportunity, _____ would take advantage of me.

0	1	2	3	4	5	6

13. _____ shows very little concern for me.

0	1	2	3	4	5	6

14. _____ cares about my opinions.

0	1	2	3	4	5	6

15. _____ takes pride in my accomplishments at work.

0	1	2	3	4	5	6

16. _____ tries to make my job as interesting as possible.

0	1	2	3	4	5	6

Appendix B – Semi-structured Approach Script

Good Morning/Afternoon/Evening,.

My name is Shawn Eckford and I am a graduate student at Brock University in the Department of Sport Management.

I am hoping you might be interested in participating in a research project that I am conducting titled the Perceived Organizational Support of Minor Hockey Officials. This research study has received ethics clearance from the Research Ethics Board at Brock University (insert file numbers)

The purpose of our study is to examine the extent to which officials perceive support from the minor hockey system, and those who work or volunteer within the system. In order to better understand this topic, I would like to have officials complete a survey. I am looking for officials who have at least one year of officiating experience. You would have the option of completing the survey now or at a later date in an emailed survey.

Are you interested?

If yes to completing on the spot –
Thank you! Before we start the survey I'd ask that you read, sign, and date the "Informed Consent Form" that details your rights as a participant and how you are being protected.

If yes to completing via email –
Thank you! Before I let you go, I'd ask that you give me your email so that we can send an Informed Consent Form and the Survey.

If no –
Thank you for your time and enjoy your season!

Appendix C – Informed Consent Form

[Date]
Project Title: Perceived Organizational Support of Minor Hockey Officials

Student Principal Investigator (SPI): Shawn Eckford
MA Candidate
Department of Sport Management – Brock University
se08ty@brocku.ca

Faculty Supervisor: Dr. Julie Stevens
Department of Sport Management – Brock University
905-688-5550 ex. 4668 – jstevens@brocku.ca

INVITATION
You are invited to participate in a study that involves research. The purpose of this study is to understand the extent to which officials perceive support from the minor hockey system, and those who work or volunteer within the system

WHAT'S INVOLVED
As a participant, you will be asked to complete a survey regarding your experience as an official in terms of support from managers and supervisors. The survey takes approximately 10 to 15 minutes.

POTENTIAL BENEFITS AND RISKS
Possible benefits of participation include an opportunity to explain your experience to a researcher, and potentially help to improve the management of officials within the Canadian Minor Hockey system. We believe that no foreseeable risks exist to you as a participant.

CONFIDENTIALITY
All information you provide is considered confidential. Your name will not be used, included or in any other way, associated with the data collected in this study. Furthermore, because our interest is in the average responses of the entire group of participants, you will not be identified in any way, in any publication or presentation of these results.

The decision you make regarding your participation and any information provided in any survey will never be revealed to anyone involved in minor hockey and will have no effect on officiating opportunities in the future. Hard copy data will be input into a computer program and then shredded. Electronic files will be maintained on a password protected computer. Data will be kept for one year after final evaluations for this thesis are filed, and then deleted from the computer. Access to this data will be restricted to Principal Student Investigator Shawn Eckford and Faculty Supervisor Dr. Julie Stevens.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled. Participants may withdraw at any time, and if they do so will be given the choice of two options: to withdraw from participation and leave previously recorded data for consideration, or remove all participation and information from consideration.

PUBLICATION OF RESULTS

The Master's thesis that represents this data will be stored electronically in the James A. Gibson Library collection at Brock University. Feedback about this study will be available upon completion of report by contacting Shawn Eckford at the above contact information.

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact Dr. Julie Stevens at jstevens@brocku.ca or Shawn Eckford at se08ty@brocku.ca. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University [INSERT NUMBER]. If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____

Signature: _____

Date: _____

Appendix D - Assumptions

H_1: Experience

Independence of Observations

Officials could not be part of the lowest third of officials in terms of experience AND part of the highest third of officials in terms of experience. Therefore this assumption has been met.

Equal Group Sizes

Within the lowest third of officials in terms of experience, there were 109 officials. Within the highest third of officials in terms of experience, there were 98 officials. While these numbers are not equal, they are acceptably close, and therefore this assumption has been met.

Univariate Normal Distribution

When analyzing univariate normal distribution, the researcher looks to see that the mean, median and mode are similar, and that a normal distribution occurs in a histogram. In the case of the lowest third of officials in terms of experience, univariate normal distribution did exist, as the mean, median and mode were 4.29, 4.31 and 4 respectively. Meanwhile, descriptive statistics and a histogram of the normal distribution:

Table D1

Descriptive Statistics for Officials with Short Tenure

Statistics

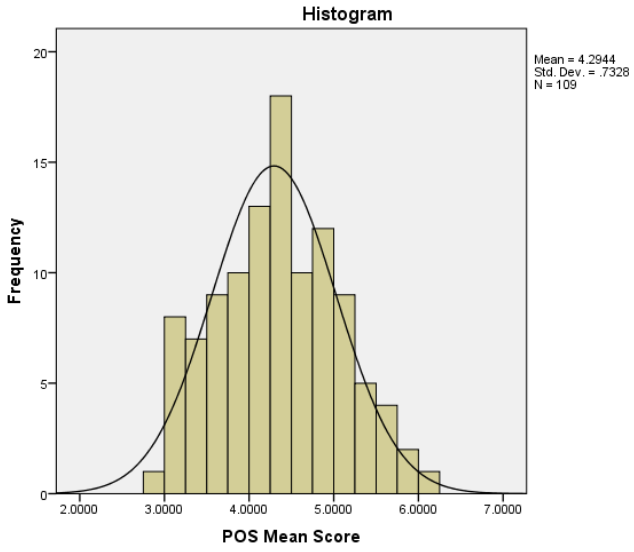
POS Mean Score

N	Valid	109
	Missing	0
Mean		4.294446
Median		4.312500
Mode		4.0000[a]
Std. Deviation		.7328331
Skewness		.076
Std. Error of Skewness		.231
Kurtosis		-.651
Std. Error of Kurtosis		.459

a. Multiple modes exist. The smallest value is shown

Figure D1

Normal Distribution of POS Mean Score among Officials with Short Tenure



Normal distribution for the highest third of officials in terms of experience also existed, as the mean, median and mode were 3.97, 3.96 and 3.81 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D2

Descriptive Statistics for Officials with Long Tenure

Statistics

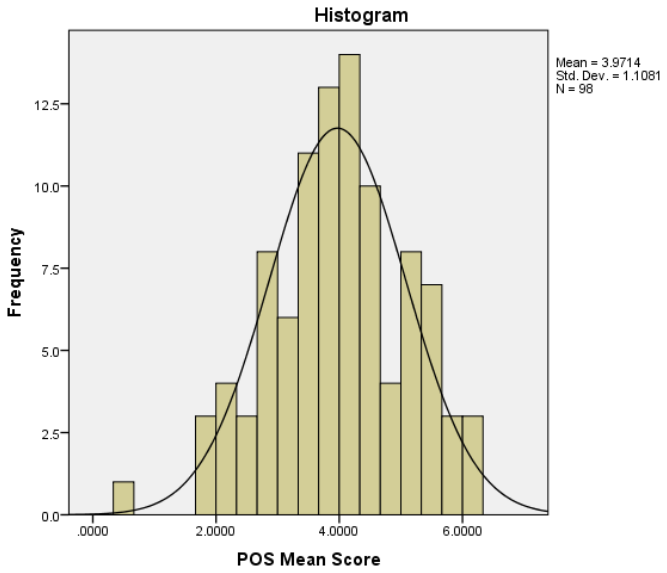
POS Mean Score

N	Valid	98
	Missing	0
Mean		3.971378
Median		3.968750
Mode		3.8125[a]
Std. Deviation		1.1080806
Skewness		-.275
Std. Error of Skewness		.244
Kurtosis		-.097
Std. Error of Kurtosis		.483

a. Multiple modes exist. The smallest value is shown

Figure D2

Normal Distribution of POS Mean Score among Officials with Long Tenure



Homogeneity of Variance

When looking for homogeneity of variance, the researcher must interpret Levene's statistic, which should be greater than the critical value (p = .05) to indicate a variance in the data. In this hypothesis, the homogeneity of variance assumption has been violated.

Table D3

Group Statistics for POS & Experience

Group Statistics

	Lowest=1, Highest=2	N	Mean	Std. Deviation	Std. Error Mean
POS Mean Score	Lowest	109	4.294446	.7328331	.0701927
	Highest	98	3.971378	1.1080806	.1119330

Table D4

Independent Samples Test for POS & Experience

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
POS Mean Score	Equal variances assumed	13.616	.000	2.497	205	.013	.3230678	.1293877	.0679665	.5781691
	Equal variances not assumed			2.445	165.328	.016	.3230678	.1321212	.0622054	.5839301

H_2: Age

Independence of Observations

Officials could not be part of the youngest third of officials AND part of the oldest third of officials. Therefore this assumption has been met.

Equal Group Sizes

Within the youngest third of officials, there were 86 participants. Within the oldest third of officials, there were 85 officials. While these numbers are not equal, they are acceptably close, and therefore this assumption has been met.

Univariate Normal Distribution

When analyzing univariate normal distribution, the researcher looks to see that the mean, median and mode are similar, and that a normal distribution occurs in a histogram. In the case of the youngest third of officials, univariate normal distribution did exist, as the mean, median and mode were 4.32, 4.31, and 4.88 respectively. Meanwhile, descriptive statistics and a histogram of the normal distribution:

Table D5

Descriptive Statistics for Younger Officials

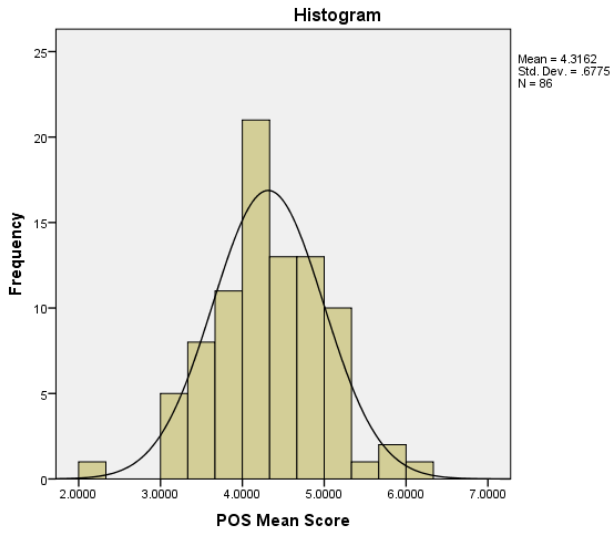
Statistics

POS Mean Score

N	Valid	86
	Missing	0
Mean		4.316198
Median		4.312500
Mode		4.8750
Std. Deviation		.6775180
Skewness		.053
Std. Error of Skewness		.260
Kurtosis		.178
Std. Error of Kurtosis		.514

Figure D3

Normal Distribution of POS Mean Score among Younger Officials



Normal distribution for the highest third of officials in terms of experience also existed, as the mean, median and mode were 4.06, 4.12 and 4.18 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D6

Descriptive Statistics for Older Officials

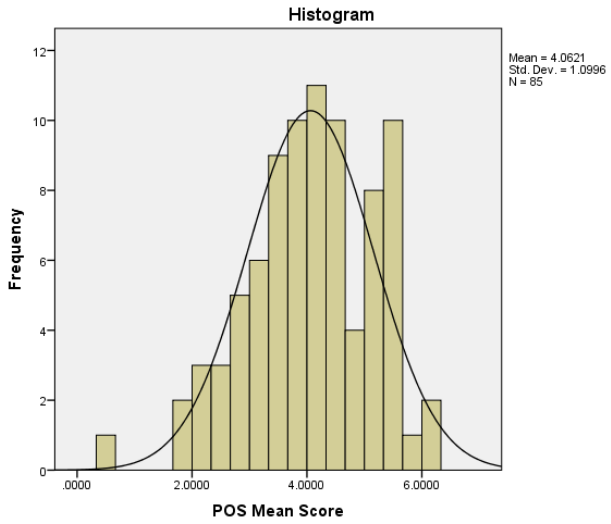
Statistics

POS Mean Score

N	Valid	85
	Missing	0
Mean		4.062084
Median		4.125000
Mode		4.1875
Std. Deviation		1.0996226
Skewness		-.455
Std. Error of Skewness		.261
Kurtosis		.024
Std. Error of Kurtosis		.517

Figure D4

Normal Distribution of POS Mean Score among Older Officials



Homogeneity of Variance

When looking for homogeneity of variance, the researcher must interpret Levene's statistic, which should be greater than the critical value (p = .05) to indicate a variance in the data. In this hypothesis, the homogeneity of variance assumption has been violated.

Table D7

Group Statistics for POS & Age

Group Statistics

	Lowest=1, Highest=2	N	Mean	Std. Deviation	Std. Error Mean
POS Mean Score	Lowest	86	4.316198	.6775180	.0730586
	Highest	85	4.062084	1.0996226	.1192708

Table D8

Independent Samples Test for POS & Age

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
POS Mean Score	Equal variances assumed	18.062	.000	1.822	169	.070	.2541142	.1394986	-.0212701	.5294985
	Equal variances not assumed			1.817	139.459	.071	.2541142	.1398681	-.0224220	.5306504

H_3: Sex

H3 was not analyzed due to a large disparity in the group sizes.

H_4: Certification Level

Independence of Observations

Officials could not be part of the less certified group AND part of the higher certified group. Therefore this assumption has been met.

Equal Group Sizes

Within the group of less certified officials, there were 145 participants, while within the more highly certified group, there were 116 participants. While these groups are not equal, they are similar enough to state that this assumption has been met.

Univariate Normal Distribution

When analyzing univariate normal distribution, the researcher looks to see that the mean, median and mode are similar, and that a normal distribution occurs in a histogram. In the case of the less certified officials, univariate normal distribution did exist, as the mean, median and mode were 4.24, 4.25, and 4.37 respectively. Meanwhile, descriptive statistics and a histogram of the normal distribution:

Table D9

Descriptive Statistics for Less Certified Officials

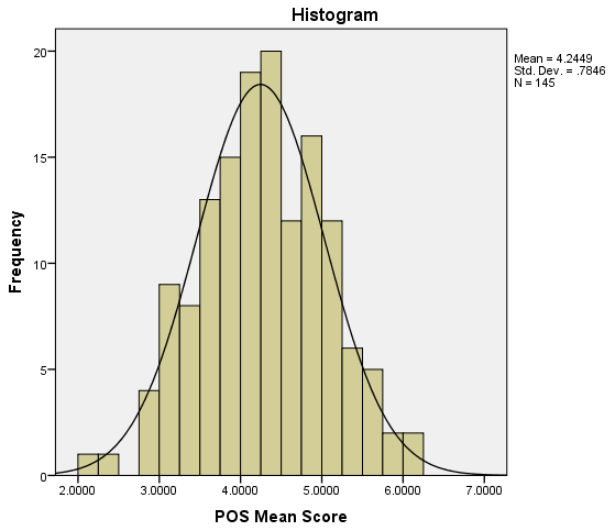
Statistics

POS Mean Score

N	Valid	145
	Missing	0
Mean		4.244928
Median		4.250000
Mode		4.3750
Std. Deviation		.7845722
Skewness		-.088
Std. Error of Skewness		.201
Kurtosis		-.279
Std. Error of Kurtosis		.400

Figure D5

Normal Distribution of POS Mean Score among Less Certified Officials



Normal distribution for the more certified officials also existed, as the mean, median and mode were 3.99, 3.97 and 4.19 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D10

Descriptive Statistics for More Certified Officials

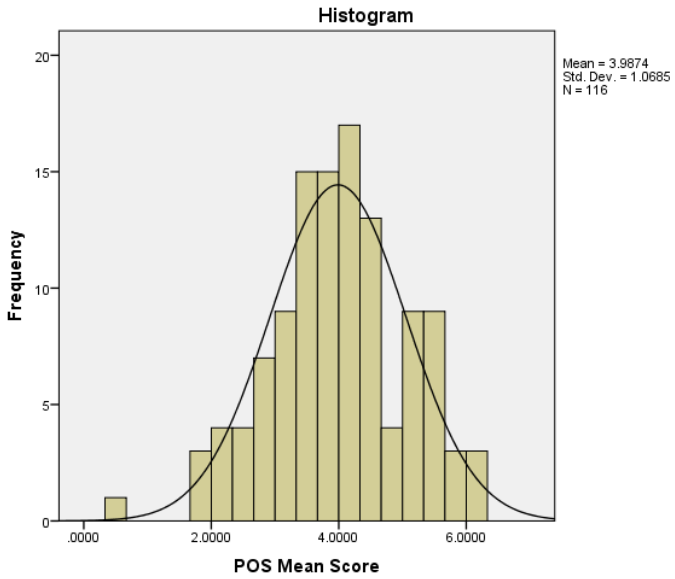
Statistics

POS Mean Score

N	Valid	116
	Missing	0
Mean		3.987424
Median		3.968750
Mode		4.1875
Std. Deviation		1.0684645
Skewness		-.251
Std. Error of Skewness		.225
Kurtosis		-.022
Std. Error of Kurtosis		.446

Figure D6

Normal Distribution of POS Mean Score among More Certified Officials



Homogeneity of Variance

When looking for homogeneity of variance, the researcher must interpret Levene's statistic, which should be greater than the critical value (p = .05) to indicate a variance in the data. In this hypothesis, the homogeneity of variance assumption has been violated.

Table D11

Group Statistics for POS & Certification Level

Group Statistics

	Certification Group	N	Mean	Std. Deviation	Std. Error Mean
POS Mean Score	Levels I & II	145	4.244928	.7845722	.0651552
	Levels III, IV, V & VI	116	3.987424	1.0684645	.0992044

Table D12

Independent Samples Test for POS & Certification Level

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
POS Mean Score	Equal variances assumed	9.876	.002	2.243	259	.026	.2575041	.1147877	.0314682	.4835400
	Equal variances not assumed			2.170	205.128	.031	.2575041	.1186875	.0235003	.4915079

H5: Extra-Role Performance

Independence of Observations

Officials could not be part of one group, AND part of another. Therefore this assumption has been met.

Equal Group Sizes

Within the group of officials who perform 0 extra-roles, there were 104 participants. Within the group of officials who perform 1 extra-role, there were 75 officials. Within the group of officials who perform multiple extra-roles, there were 82 participants. While these groups are not equal, they are similar enough to state that this assumption has been met.

Univariate Normal Distribution

When analyzing univariate normal distribution, the researcher looks to see that the mean, median and mode are similar, and that a normal distribution occurs in a histogram. In the case of officials who perform 0 extra-roles, univariate normal distribution did exist, as the mean, median and mode were 4.32, 4.34, 3.75 respectively. Meanwhile, descriptive statistics and a histogram of the normal distribution:

Table D13

Descriptive Statistics for Officials who Perform No Extra-Roles

Statistics

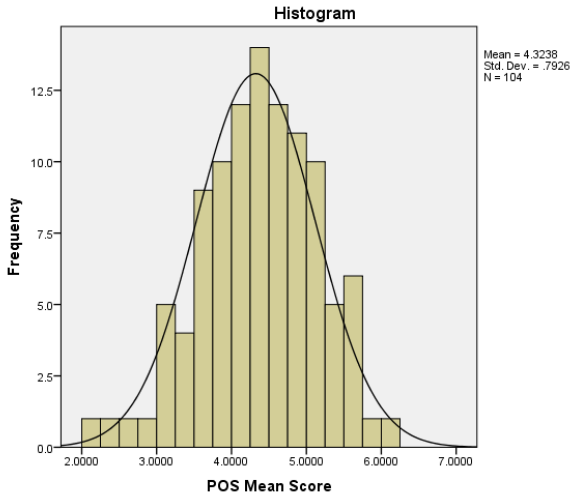
POS Mean Score

N	Valid	104
	Missing	0
Mean		4.323793
Median		4.344595
Mode		3.7500[a]
Std. Deviation		.7926416
Skewness		-.359
Std. Error of Skewness		.237
Kurtosis		-.014
Std. Error of Kurtosis		.469

a. Multiple modes exist. The smallest value is shown

Figure D7

Normal Distribution of POS Mean Score among Officials who Perform No Extra-Roles



Normal distribution for officials who perform 1 extra-role also existed, as the mean, median and mode were 3.94, 3.81 and 3.68 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D14

Descriptive Statistics for Officials who Perform One Extra-Role

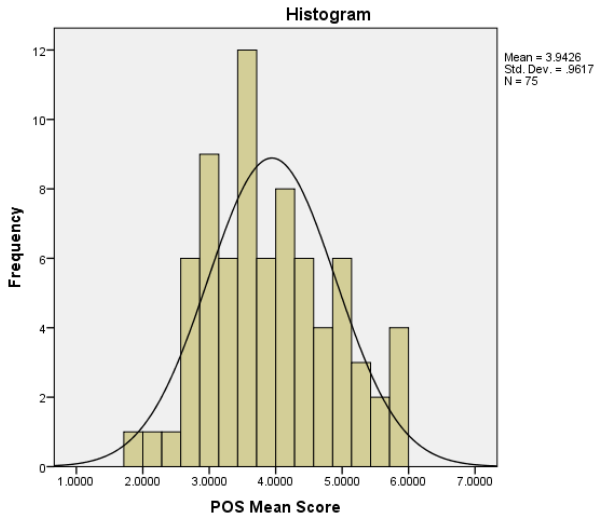
Statistics

POS Mean Score

N	Valid	75
	Missing	0
Mean		3.942583
Median		3.812500
Mode		3.6875
Std. Deviation		.9616654
Skewness		.305
Std. Error of Skewness		.277
Kurtosis		-.579
Std. Error of Kurtosis		.548

Figure D8

Normal Distribution of POS Mean Score among Officials who Perform One Extra-Role



Normal distribution for officials who perform multiple extra-roles also existed, as the mean, median and mode were 4.05, 4.15 and 4.18 respectively. A histogram of the normal distribution looked like this:

Table D15

Descriptive Statistics for Officials who perform Multiple Extra-Roles

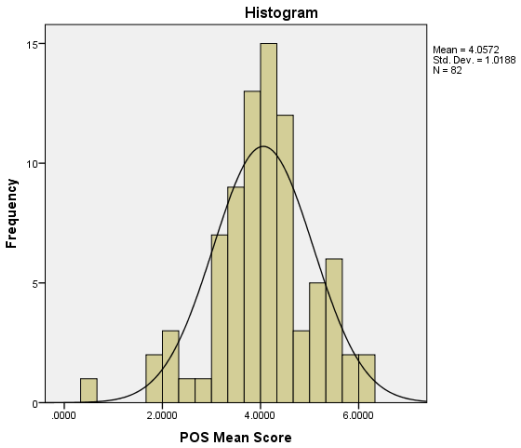
Statistics

POS Mean Score

N	Valid	82
	Missing	0
Mean		4.057164
Median		4.156250
Mode		4.1875
Std. Deviation		1.0188076
Skewness		-.583
Std. Error of Skewness		.266
Kurtosis		1.041
Std. Error of Kurtosis		.526

Figure D9

Normal Distribution of POS Mean Score among Officials who Perform Multiple Extra-Roles



Homogeneity of Variance

When looking for homogeneity of variance, the researcher must interpret Levene's statistic, which should be greater than the critical value (p = .05) to indicate a variance in the data. In this hypothesis, the homogeneity of variance assumption was not violated.

Table D16

Test of Homogeneity of Variances for POS & Extra-Role Involvement

Test of Homogeneity of Variances

POS Mean Score

Levene Statistic	df1	df2	Sig.
1.944	2	258	.145

Table D17

ANOVA for POS & Extra-Role Involvement

ANOVA

POS Mean Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.975	2	3.488	4.142	.017
Within Groups	217.224	258	.842		
Total	224.199	260			

Table D18

Multiple Comparisons for POS & Extra-Role Involvement

Multiple Comparisons

Dependent Variable: POS Mean Score
Bonferroni

(I) Extra-Role Involvement Group	(J) Extra-Role Involvement Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No Extra-Role	One Extra-Role	.3812107*	.1390026	.020	.046257	.716164
	Multiple Extra-Roles	.2666293	.1355116	.151	-.059912	.593171
One Extra-Role	No Extra-Role	-.3812107*	.1390026	.020	-.716164	-.046257
	Multiple Extra-Roles	-.1145815	.1466074	1.000	-.467860	.238697
Multiple Extra-Roles	No Extra-Role	-.2666293	.1355116	.151	-.593171	.059912
	One Extra-Role	.1145815	.1466074	1.000	-.238697	.467860

*. The mean difference is significant at the 0.05 level.

H_6: Level of Activity

Independence of Observations

Officials could not be part of one group, AND part of another. Therefore this assumption has been met.

Equal Group Sizes

Within the lowest third of officials in terms of activity, there were 104 participants. Within the highest third of officials in terms of activity, there were 86 participants. While these groups are not equal, they are similar enough to state that this assumption has been met.

Univariate Normal Distribution

When analyzing univariate normal distribution, the researcher looks to see that the mean, median and mode are similar, and that a normal distribution occurs in a histogram. In the case of less active officials, univariate normal distribution did exist, as the mean, median and mode were 4.15, 4.25, 4.25 respectively. Meanwhile, descriptive statistics and a histogram of the normal distribution:

Table D19

Descriptive Statistics for Less Active Officials

Statistics

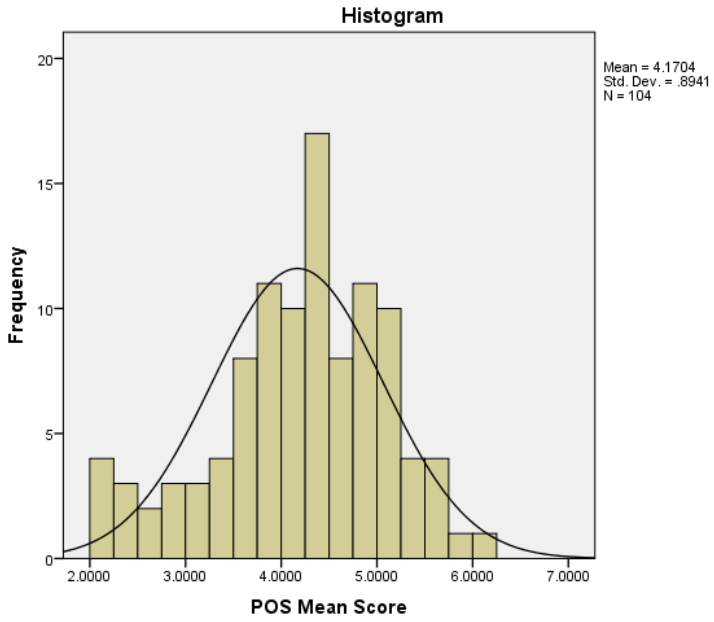
POS Mean Score

N	Valid	104
	Missing	0
Mean		4.170423
Median		4.250000
Mode		3.8125[a]
Std. Deviation		.8941133
Skewness		-.499
Std. Error of Skewness		.237
Kurtosis		-.078
Std. Error of Kurtosis		.469

a. Multiple modes exist. The smallest value is shown

Figure D10

Normal Distribution of POS Mean Score among Less Active Officials



Normal distribution for more active officials also existed, as the mean, median and mode were 4.11, 4.06 and 4.19 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D20

Descriptive Statistics for More Active Officials

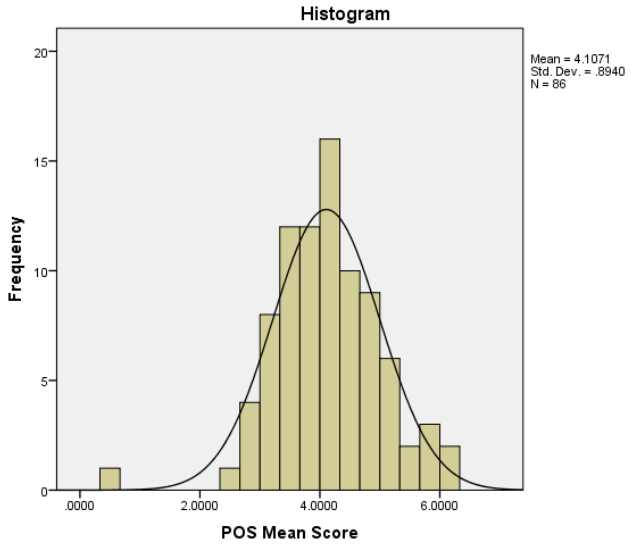
Statistics

POS Mean Score

N	Valid	86
	Missing	0
Mean		4.107138
Median		4.093750
Mode		4.1875
Std. Deviation		.8939775
Skewness		-.346
Std. Error of Skewness		.260
Kurtosis		1.715
Std. Error of Kurtosis		.514

Figure D11

Normal Distribution of POS Mean Score among More Active Officials



Homogeneity of Variance

When looking for homogeneity of variance, the researcher must interpret Levene's statistic, which should be greater than the critical value (p = .05) to indicate a variance in the data. In this hypothesis, the homogeneity of variance assumption was not violated.

Table D21

Group Statistics for POS & Level of Activity

Group Statistics

	Lowest=1, Highest=2	N	Mean	Std. Deviation	Std. Error Mean
POS Mean Score	Lowest	104	4.170423	.8941133	.0876750
	Highest	86	4.107138	.8939775	.0964001

Table D22

Independent Samples Test for POS & Level of Activity

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
POS Mean Score	Equal variances assumed	.040	.842	.486	188	.628	.0632851	.1303088	-.1937702	.3203404
	Equal variances not assumed			.486	181.369	.628	.0632851	.1303069	-.1938273	.3203975

H_7: Organizational Affiliation

Independence of Observations

Officials could not be part of one group, AND part of another. Therefore this assumption has been met.

Equal Group Sizes

There were 112 officials who identified as part of a local minor hockey association, 16 officials who identified a local hockey league, 49 officials who identified a regional hockey body, 23 officials who identified Hockey Canada, and 22 officials who identified another group or individual. While these groups are not equal, they are similar enough to state that this assumption has been met.

Univariate Normal Distribution

When analyzing univariate normal distribution, the researcher looks to see that the mean, median and mode are similar, and that a normal distribution occurs in a histogram. In the case of officials who identified a local hockey association, univariate normal distribution did exist, as the mean, median and mode were 4.19, 4.19, 4.31, respectively. Meanwhile, descriptive statistics and a histogram of the normal distribution:

Table D23

Descriptive Statistics for Officials who identified with a Local Hockey Association

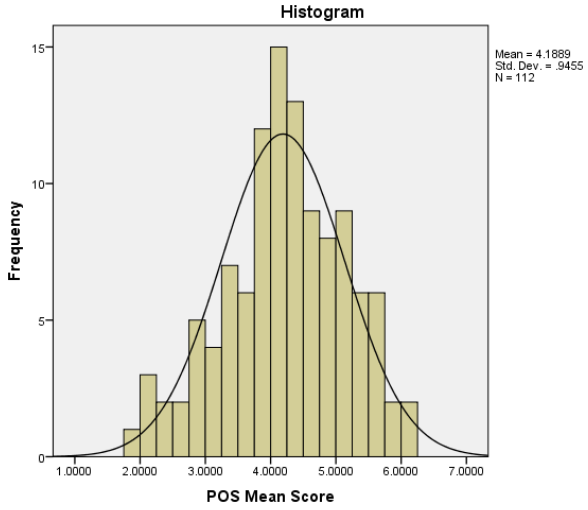
Statistics

POS Mean Score

N	Valid	112
	Missing	0
Mean		4.188851
Median		4.187500
Mode		4.3125
Std. Deviation		.9454774
Skewness		-.319
Std. Error of Skewness		.228
Kurtosis		-.247
Std. Error of Kurtosis		.453

Figure D12

Normal Distribution of POS Mean Score among Officials who Identified With A Local Hockey Association



Normal distribution for officials who identified a local hockey league perform multiple extra-roles also existed, as the mean, median and mode, were 3.92, 4.00, and 3.38 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D24

Descriptive Statistics for Officials who identified with a Local Hockey League

Statistics

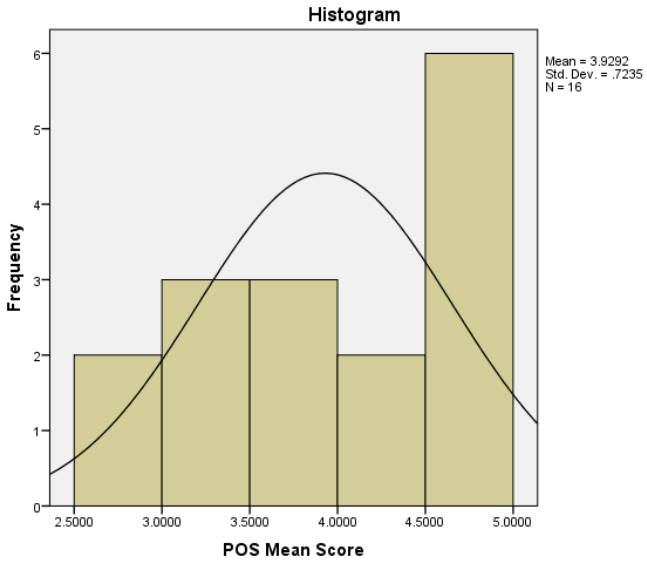
POS Mean Score

N	Valid	16
	Missing	0
Mean		3.929189
Median		4.000000
Mode		3.3750[a]
Std. Deviation		.7234870
Skewness		-.247
Std. Error of Skewness		.564
Kurtosis		-1.518
Std. Error of Kurtosis		1.091

a. Multiple modes exist. The smallest value is shown

Figure D13

Normal Distribution of POS Mean Score among Officials who identified with a Local Hockey League



Normal distribution for officials who identified a regional hockey body perform multiple extra-roles also existed, as the mean, median and mode, were 3.92, 4.00, and 3.38 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D25

Descriptive Statistics for Officials who identified with a Regional Hockey Body

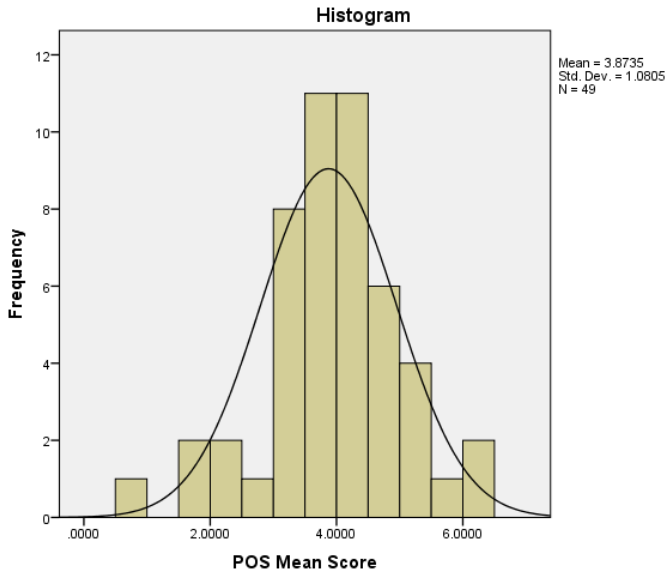
Statistics

POS Mean Score

N	Valid	49
	Missing	0
Mean		3.873470
Median		3.937500
Mode		3.5000
Std. Deviation		1.0805467
Skewness		-.446
Std. Error of Skewness		.340
Kurtosis		.948
Std. Error of Kurtosis		.668

Figure D14

Normal Distribution of POS Mean Score among Officials who identified a Regional Hockey Body



Normal distribution for officials who identified Hockey Canada also existed, as the mean, median and mode, were 3.92, 4.00, and 3.38 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D26

Descriptive Statistics for Officials who identified Hockey Canada

Statistics

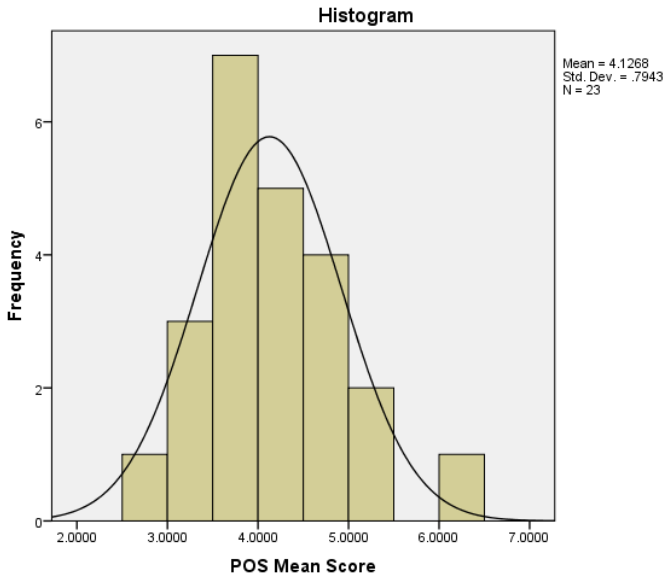
POS Mean Score

N	Valid	23
	Missing	0
Mean		4.126798
Median		4.062500
Mode		3.5625[a]
Std. Deviation		.7942567
Skewness		.565
Std. Error of Skewness		.481
Kurtosis		-.209
Std. Error of Kurtosis		.935

a. Multiple modes exist. The smallest value is shown

Figure D15

Normal Distribution of POS Mean Score among Officials who identified Hockey Canada



Normal distribution for officials who identified another individual or organization also existed, as the mean, median and mode, were 3.92, 4.00, and 3.38 respectively. Descriptive statistics and a histogram of the normal distribution looked like this:

Table D27

Descriptive Statistics for Officials who identified another Individual or Organization

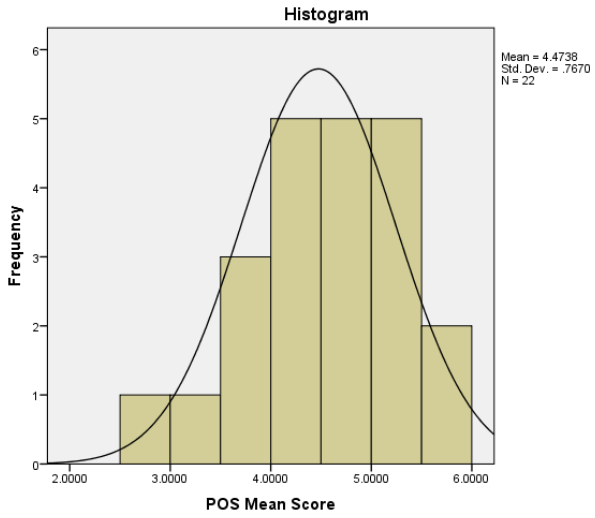
Statistics

POS Mean Score

N	Valid	22
	Missing	0
Mean		4.473763
Median		4.531250
Mode		5.2500
Std. Deviation		.7669518
Skewness		-.550
Std. Error of Skewness		.491
Kurtosis		-.272
Std. Error of Kurtosis		.953

Figure D16

Normal Distribution of POS Mean Score among Officials who Identified another Individual or Organization



Homogeneity of Variance

When looking for homogeneity of variance, the researcher must interpret Levene's statistic, which should be greater than the critical value (p = .05) to indicate a variance in the data. In this hypothesis, the homogeneity of variance assumption was not violated.

Table D28

Test of Homogeneity of Variances for POS & Organizational Affiliation

Test of Homogeneity of Variances

POS Mean Score

Levene Statistic	df1	df2	Sig.
.685	4	217	.603

Table D29

ANOVA for POS & Organizational Affiliation

ANOVA

POS Mean Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.845	4	1.711	1.961	.102
Within Groups	189.352	217	.873		
Total	196.197	221			

Table D30

Multiple Comparisons for POS & Organizational Affiliation

Multiple Comparisons

Dependent Variable: POS Mean Score
Bonferroni

(I) Org of Choice	(J) Org of Choice	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Local Minor Hockey Association	Local Minor Hockey League	.2596616	.2496557	1.000	-.448368	.967691
	Regional Hockey Body	.3153806	.1599969	.500	-.138374	.769136
	Hockey Canada	.0620531	.2138452	1.000	-.544417	.668523
	Other	-.2849121	.2178400	1.000	-.902712	.332887
Local Minor Hockey League	Local Minor Hockey Association	-.2596616	.2496557	1.000	-.967691	.448368
	Regional Hockey Body	.0557190	.2689702	1.000	-.707087	.818525
	Hockey Canada	-.1976085	.3040983	1.000	-1.060039	.664822
	Other	-.5445737	.3069206	.774	-1.415008	.325861
Regional Hockey Body	Local Minor Hockey Association	-.3153806	.1599969	.500	-.769136	.138374
	Local Minor Hockey League	-.0557190	.2689702	1.000	-.818525	.707087
	Hockey Canada	-.2533275	.2361075	1.000	-.922934	.416279
	Other	-.6002927	.2397317	.130	-1.280177	.079592
Hockey Canada	Local Minor Hockey Association	-.0620531	.2138452	1.000	-.668523	.544417
	Local Minor Hockey League	.1976085	.3040983	1.000	-.664822	1.060039
	Regional Hockey Body	.2533275	.2361075	1.000	-.416279	.922934
	Other	-.3469652	.2785714	1.000	-1.137000	.443070
Other	Local Minor Hockey Association	.2849121	.2178400	1.000	-.332887	.902712
	Local Minor Hockey League	.5445737	.3069206	.774	-.325861	1.415008
	Regional Hockey Body	.6002927	.2397317	.130	-.079592	1.280177
	Hockey Canada	.3469652	.2785714	1.000	-.443070	1.137000

Appendix E - Use of SPOS and Mean POS Scores in Previous Literature

Table E1

Authors	Occupation	Mean POS Score & Standard Deviation
Current Study	Minor hockey officials (n = 261)	M = 4.13, SD = .93
Eisenberger et al. (1986)	White collar workers and secretaries at manufacturing firm A (n=36)	M = 4.67, SD = .72
	Credit bureau clerical workers (n=12)	M = 4.08, SD = .89
	White collar workers at manufacturing firm B (n=30)	M = 3.81, SD = .93
	Telephone company line workers (n=12)	M = 3.67, SD = .91
	Bookstore bookkeepers and clerks(n=17)	M = 3.60, SD = 1.04
	Law firm secretaries (n=19)	M = 3.49, SD = .85
	High school teachers (n=50)	M = 3.30, SD = 1.24
	Financial trust company employees (n =120)	M = 2.79, SD = 1.03
	Postal clerks (n=65)	M = 1.88, SD = 1.34
Eder & Eisenberger (2008)	Manufacturing employees (n = 162)	M = 2.45, SD = 1.33
	Retail sales employees (n = 640)	M = 2.47, SD = 1.29
Eisenberger, et al. (2001)	Employees of a large mail processing facility (n = 450)	M = 1.62, SD = 1.33
Eisenberger et al. (1997)	A variety of occupations (n = 295)	M = 3.69, SD = 1.28

Eisenberger, Stinglhamber et al. (2002)	Employees at a chain of large discount electronics and appliance stores (n = 300)	M = 2.54, SD = 1.33
	Employees at a large discount electronics and appliance store (n = 493)	M = 2.38, SD = 1.31
Rhoades, Eisenberger & Armeli (2001)	A variety of occupations (n = 367)	M = 3.69, SD = 1.29
	Retail employees (n = 1124)	M = 2.21, SD = 1.31
	Poultry and feed processing employees (n = 262)	M = 3.68, SD = 1.23
Shore & Tetrick (1991)	Employees in a large corporation (n = 330)	M = 2.44, SD = .72
Veitch & Cooper–Thomas (2009)	Temporary employees under an agency (n = 73)	POS from Client Organization: M = 2.61, SD = 1.23
		POS from temporary work agency: M = 3.77, SD = 1.18

(Scores have been adjusted to reflect a 0-6 Likert scale. Note that only 7-point Likert scales were considered, and that each mean score reflects a 0-6 Likert scale.)